

FABCO POWER

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**EAGLE 6 IN 1 POWER STATION
OPERATORS, MAINTENANCE
AND PARTS MANUAL**

CAUTION

If this System is used in less then 1 ½ Hour operations

You must change the Air end Hydr.Oil every 30 Days.

Using this System in short periods less than 1 Hour will

create moister in the Hydraulic Oil and will damage the Air End beyond repair.

By changing the Oil every 30 Days this damage will be avoided.

Damage to the Air End is NOT covered under the Warranty.

OPERATORS, MAINTENANCE, AND PARTS MANUAL EAGLE 6 IN 1

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SPECIFICATIONS

COMPRESSOR DELIVERY	CFM	30
	PSI	110
GENERATOR MAX OUTPUT	VOLTS	120/240
WELDER MAX OUTPUT	AMPS	300
FLUID CAPACITY - COMPRESSOR (NOT HYDRAULIC)	2.0 GALLON SYSTEM .75 COMPRESSOR SUMP	
HYDRAULIC DELIVERY	25 GPM @2000 PSI	
COMPONENTS SYSTEM	OVERALL DIMENSIONS (SEE BELOW)	
WEIGHT (WET)	475LBS.	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

WARNING

THE EAGLE 6 IN 1 IS DESIGNED FOR OPERATIONS UTILIZING A GEARED PUMP. IF A LOAD SENSING PUMP IS BEING USED, CONTACT YOUR DISTRIBUTOR FOR PROPER INSTALLATION PROCEDURE. FAILURE TO COMPLY WILL CAUSE PROPERTY DAMAGE OR SERIOUS BODILY INJURY.

SAFETY

WARNING

ALL UNITS ARE SHIPPED WITH A DETAILED OPERATORS AND PARTS MANUAL. THIS MANUAL CONTAINS VITAL INFORMATION FOR THE SAFE USE AND EFFICIENT OPERATION OF THIS UNIT. CAREFULLY READ THE OPERATORS MANUAL BEFORE STARTING THE UNIT. FAILURE TO ADHERE TO THE INSTRUCTIONS COULD RESULT IN SERIOUS BODILY INJURY OR PROPERTY DAMAGE.

AIR COMPRESSOR SAFETY PRECAUTIONS

Safety is basically common sense. While there are standard safety rules, each situation has its own peculiarities that cannot always be covered by rules. Therefore with your experience and common sense, you are in a position to ensure your safety. Lack of attention to safety can result in: accidents, personal injury, reduction of efficiency and worst of all - Loss of Life. Watch for safety hazards. Correct them promptly. Use the following safety precautions as a general guide to safe operation:

Do not attempt to remove any compressor parts without first relieving the entire system of pressure.

Do not attempt to service any part while machine is operating.

DANGER

CHECK THE COMPRESSOR SUMPOIL LEVEL ONLY WHEN THE COMPRESSOR IS NOT OPERATING AND SYSTEM IS COMPLETELY RELIEVED OF PRESSURE. OPEN SERVICE VALVE TO ENSURE RELIEF OF SYSTEM AIR PRESSURE WHEN PERFORMING MAINTENANCE ON COMPRESSOR AIR/OIL SYSTEM. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

Do not operate the compressor at pressure(s) or speed in excess of its rating as indicated in "Compressor Specifications".

Periodically check all safety devices for proper operation.

Do not play with compressed air. Pressurized air can cause serious injury to personnel.

Exercise cleanliness during maintenance and when making repairs by covering parts and exposed openings.

SAFETY

DANGER

DO NOT USE FABCOs COMPRESSOR SYSTEMS TO PROVIDE BREATHING AIR. SUCH USAGE, WHETHER SUPPLIED IMMEDIATELY FROM THE COMPRESSOR SOURCE, OR SUPPLIED TO BREATHING TANKS FOR SUBSEQUENT USE, CAN CAUSE SERIOUS BODILY INJURY.

BOSS INDUSTRIES, INC. DISCLAIMS ANY AND ALL LIABILITIES FOR DAMAGE FOR LOSS DUE TO PERSONAL INJURIES, INCLUDING DEATH, AND/OR PROPERTY DAMAGE INCLUDING CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BOSS INDUSTRIES, INC. COMPRESSORS USED TO SUPPLY BREATHING AIR.

Do not disconnect or bypass safety circuit system.

Do not install safety devices other than authorized BOSS INDUSTRIES, INC. replacement devices.

Close all openings and replace all covers and guards before operating compressor unit.

Tools, rags, or loose parts must not be left on the compressor or drive parts.

Do not use flammable solvents for cleaning parts. This can cause the unit to ignite during operation.

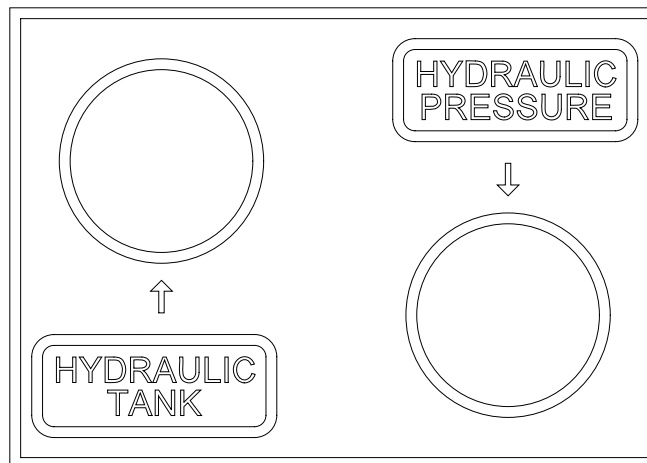
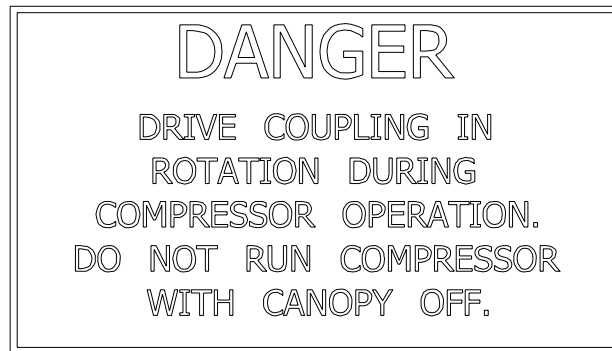
Keep combustibles out of and away from the Compressor/Inlet and any associated enclosures.

The owner, lessor, or operator of the Compressor are hereby notified and forewarned that any failure to observe these safety precautions may result in damage or injury

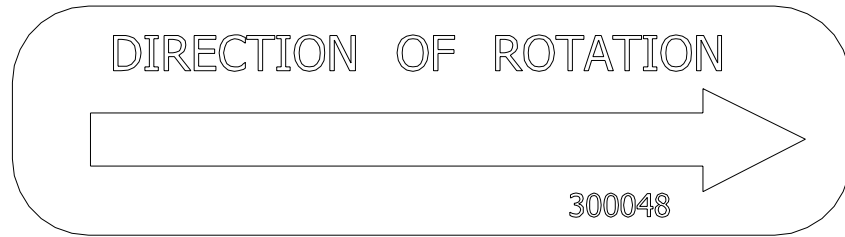
FABCO POWER expressly disclaims responsibility or liability for any injury or damage caused by failure to observe these specified precautions or by failure to exercise that ordinary caution and due care required when operating or handling the Compressor even though not expressly specified above.

SAFETY

A compliment of warning decals is supplied with each unit. These decals must be affixed to the compressor package in the locations noted in this manual. If for any reason a safety decal is removed it is the owners responsibility to make sure it is replaced.



SAFETY



COMPRESSOR TERMINOLOGY

AIR/OIL COALESCER - Performs second stage separation of oil from compressed air feeding air tools. Sometimes referred to as the separator element.

CFM - Refers to the volume of compressed air being produced, expressed as cubic feet of air per minute.

COMPRESSOR LUBRICANT - DEXRON IIIATF.

GPM - Refers to the amount of gallons per minute of hydraulic fluid flowing through the pump

OIL SUMP - The first stage of oil separation from compressed air Also serves as reservoir area for compressor lubricant and sometimes referred to as the receiver tank.

PSI - Refers to the operating pressure the system is set up at, expressed as pounds per square inch.

SAFETY VALVE - A valve located on the oil sump which opens in case of excessive pressure. Sometimes referred to as the pop-off or pressure relief valve.

DESCRIPTION OF COMPONENTS

COMPRESSOR ASSEMBLY

The FABCO hydraulic drive compressor assembly is a positive displacement, oil flooded, rotary screw type unit employing one stage of compression to achieve the desired pressure. Components include a housing (stator), two screws (rotors), bearings, and bearing supports. Power from the hydraulic motor shaft is transferred to the male rotor through a drive coupling. The female rotor is driven by the male rotor. There are five lobes on the male rotor while the female rotor has six roots.

PRINCIPLES OF OPERATION

In operation, two helical grooved rotors mesh to compress air. Inlet air is trapped as the male lobes roll down the female grooves, pushing trapped air along, compressing it until it reaches the discharge port in the end of the stator and delivers smooth-flowing, pulse-free air to the receiver.

During the compression cycle, oil is injected into the compressor and serves these purposes:

1. Lubricates the rotating parts and bearings.
2. Serves as a cooling agent for the compressed air
3. Seals the running clearances.

LUBRICATION SYSTEM

Oil from the compressor at discharge pressure, is directed into its integral housing, through the thermal valve and filter, and then out of the integral housing to the oil cooling system, and then back to the side of the compressor stator where it is injected into the compressor. At the same time oil is directed internally to the bearings and shaft seal of the compressor.

OIL SUMP

Compressed, oil-laden air enters the sump from the compressor. As the oil-laden air enters the sump, most of the oil is separated from the air as it passes through a series of baffles and diffusion plates. The oil accumulates at the bottom of the sump for recirculation. However, some small droplets of oil remain suspended in the air and are passed on to the Coalescer.

DESCRIPTION OF COMPONENTS

SAFETY VALVE

The pop safety valve is set at 200 PSI and is located at the top of the air/oil sump. This valve acts as a backup to protect the system from excessive pressure that might result from a malfunction.

AIR/OIL COALESCER

The coalescer is self-contained within a spin-on housing. When air is demanded at the service line, it passes through the coalescer which efficiently provides the final stage of oil separation.

OIL RETURN LINE

The oil that is removed by the coalescer accumulates and is returned through an internal oil return line leading to the compressor

MINIMUM PRESSURE VALVE

The minimum pressure valve is located at the outlet of the coalescer head and serves to maintain a minimum discharge pressure of 75 PSIG in operation, which is required to assure adequate compressor lubrication pressure.

OIL FILTER

The compressor oil filter is a removable and cleanable screen built into the side of the compressor housing. Screen replacement may be necessary after several cleanings.

COMPRESSOR OIL

Compressor oil temperature is controlled by a thermal valve located down stream of the oil filter. The thermal valve maintains the compressor oil temperature at 185°F. Cool air is drawn through the vented end panel and across the cooler. The air is heated by the cooler and the hot air exits out the end vented panel. Allow for adequate clearance (12") for the air to exit. Also, the package location should not be subjected to above ambient air temperatures.

DESCRIPTION OF COMPONENTS

INSTRUMENTATION

The FABCO hydraulic drive compressor unit incorporates a gauge panel that monitors temperature, pressure and hours of operation.

HOURLMETER

The hourmeter records the total number of operating hours. It serves as a guide in following the recommended inspection and maintenance schedule. The hourmeter will only run when there is pressure in the system.

COMPRESSOR DISCHARGE AIR/OIL TEMPERATURE SWITCHGAUGE

This switchgauge indicates compressor air discharge temperature. The switchgauge ensures safety shutdown in case of excessive operating temperatures, preventing compressor damage, by stopping hydraulic flow to the compressor motor

ELECTRICAL AND SAFETY SYSTEM

The FABCO compressor's standard electrical system consists of:

- Gauge panel with a temperature switchgauge, hourmeter and discharge pressure switchgauge.
- Compressor and oil cooler fan assembly and relay
- 3-way pressure switch and relay to control hourmeter and blowdown.
- (2) 12VDC N.O. hydraulic solenoid and relay

CONTROL SYSTEM

The prime component of the compressor control system is the compressor inlet valve. The control system is designed to match air supply to air demand and to prevent excessive discharge pressure when compressor is at idle. Control of air delivery is accomplished by the inlet valve regulation and modulation as directed by the discharge pressure regulator.

INLET VALVE

The compressor inlet valve is a piston operated disc valve that regulates the inlet opening to control capacity and serves as a check valve at shutdown.

INSPECTION, LUBRICATION, AND MAINTENANCE

This section contains instructions for performing the inspection, lubrication, and maintenance procedures required to maintain the compressor in proper operating condition. The importance of performing the maintenance described herein cannot be over emphasized.

The periodic maintenance procedures to be performed on the equipment covered by this manual are listed below. It should be understood that the intervals between inspections specified are maximum interval. More frequent inspections should be made if the unit is operating in a dusty environment, in high ambient temperature, or in other unusual conditions. A planned program of periodic inspection and maintenance will help avoid premature failure and costly repairs. Daily visual inspections should become a routine.

The LUBRICATION AND MAINTENANCE CHART lists serviceable items on this compressor package. The items are listed according to their frequency of maintenance, followed by those items which need only “As Required” maintenance.

The maintenance time intervals are expressed in hours. The hourmeter shows the total number of hours your compressor has run. Use the hourmeter readings for determining your maintenance schedules. Perform the maintenance at multiple intervals of the hours shown. For example, when the hourmeter shows “100” on the dial, all items listed under “EVERY 10 HOURS” should be serviced for the tenth time, and all items under “EVERY 50 HOURS” should be serviced for the second time, and so on.

DANGER

COMPRESSOR MUST BE SHUT DOWN AND COMPLETELY RELIEVED OF PRESSURE PRIOR TO CHECKING FLUID LEVELS. OPEN SERVICE VALVE TO ENSURE RELIEF OF SYSTEM AIR PRESSURE. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

LUBRICATION AND MAINTENANCE CHAR T

INTERVAL	ACTION
PERIODICALLY DURING OPERATION	1. Observe all gauge readings. Note any change from the normal readings and determine the cause. Have necessary repairs made. (NOTE: "NORMAL" is the usual gauge reading when operating at similar conditions on a day to day basis.)
DAILY	1. Check the compressor oil level. 2. Check air filter. 3. Check for oil and air leaks. 4. Check safety circuit switches.
EVERY 25 HOURS OR MONTHLY	1. Drain water from compressor oil.
EVERY 500 HOURS OR 6 MONTHS	1. Change compressor oil and replace screen 2. Check compressor shaft seal for leakage. 3. Check air filter piping, fittings and clamps. 4. Check compressor supports. 5. Install new air filter element. (Shorter interval may be necessary under dusty conditions.) 6. Check sump safety valve.
EVERY 1000 HOURS OR 1 YEAR	1. Change coalescing element.
PERIODICALLY OR AS REQUIRED	1. Inspect and clean air filter element. 2. Inspect and replace spin-on coalescer element if necessary. 3. Inspect and clean oil cooler fins.

NOTE: Compressor oil and filter is to be changed after the first 50 hours of operation After this, normal intervals are to be followed.

LUBRICANT RECOMMENDATIONS

WARNING

IT IS IMPORTANT THAT THE COMPRESSOR OIL BE OF A RECOMMENDED TYPE AND THAT THIS OIL AS WELL AS THE AIR FILTER, OIL FILTER, AND COALESCER ELEMENTS BE INSPECTED AND REPLACED AS STATED IN THIS MANUAL.

THE COMBINATION OF A COALESCER ELEMENT LOADED WITH DIRT AND OXIDIZED OIL PRODUCTS TOGETHER WITH INCREASED AIR VELOCITY AS A RESULT OF THIS CLOGGED CONDITION MAY PRODUCE A CRITICAL POINT WHILE THE MACHINE IS IN OPERATION WHERE IGNITION CAN TAKE PLACE AND COULD CAUSE A FIRE IN THE OIL SUMP.

FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

The following are general characteristics for a rotary screw lubricant. Due to the impossibility of establishing limits on all physical and chemical properties of lubricants which can affect their performance in the compressor over a broad range of environmental influences, the responsibility for recommending and consistently furnishing a suitable heavy duty lubricant must rest with the individual supplier if they choose not to use the recommended BOSS INDUSTRIES rotary screw lubricant. The lubricant supplier's recommendation must, therefore, be based upon not only the following general characteristics, but also upon his own knowledge of the suitability of the recommended lubricant in helical screw type air compressors operating in the particular environment involved.

CAUTION

MIXING DIFFERENT TYPES OR BRANDS OF LUBRICANTS IS NOT RECOMMENDED DUE TO THE POSSIBILITY OF A DILUTION OF THE ADDITIVES OR A REACTION BETWEEN ADDITIVES OF DIFFERENT TYPES.

LUBRICANT RECOMMENDATIONS

LUBRICANT CHARACTERISTICS

1. Flash point 400°F minimum.
2. Pour point -40°F.
3. Contains rust and corrosion inhibitors.
4. Contains foam suppressors.
5. Contains oxidation stabilizer

NOTE

DUE TO ENVIRONMENTAL FACTORS THE USEFUL LIFE OF ALL “EXTENDED LIFE” LUBRICANTS MAY BE SHORTER THAN QUOTED BY THE LUBRICANT SUPPLIER. BOSS INDUSTRIES, INC. ENCOURAGES THE USER TO CLOSELY MONITOR THE LUBRICANT CONDITION AND TO PARTICIPATE IN AN OIL ANALYSIS PROGRAM WITH THE SUPPLIER.

NOTE

NO LUBRICANT, HOWEVER GOOD AND/OR EXPENSIVE, CAN REPLACE PROPER MAINTENANCE AND ATTENTION. SELECT AND USE IT WISELY.

MAINTENANCE

If some of the maintenance intervals in the schedule outlined in this manual seem to be rather short, it should be considered that one hour's operation of a compressor is equal to about 40 road miles on an engine. Thus, eight hours operation is equal to 320 road miles, 250 hours is equal to 10,000 road miles, etc.

COMPRESSOR OIL SUMP FILL, LEVEL, AND DRAIN

Before adding or changing compressor oil make sure that the compressor is completely relieved of pressure. Oil is added at the fill cap on the side of the compressor body. A drain valve/hose assembly is provided at the bottom of the compressor body. The proper oil level is between the top and the midpoint of the oil sightglass, when the unit is shut down and has had time to settle. The truck must be level when checking the oil. **DO NOT OVERFILL.** The oil sump capacity is given in "Compressor Specifications".

DANGER

DO NOT ATTEMPT TO DRAIN CONDENSATE, REMOVE THE OIL LEVEL FILL PLUG, OR BREAK ANY CONNECTION IN THE AIR OR OIL SYSTEM WITHOUT SHUTTING OFF COMPRESSOR AND MANUALLY RELIEVING PRESSURE FROM THE SUMP. FAILURE TO COMPLY WITH THIS WARNING MAY CAUSE DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

AIR INTAKE FILTER

The air intake filter is a heavy-duty dry type high efficiency filter designed to protect the compressor from dust and foreign objects. Optional two-stage available.

Optional filter is equipped with an evacuator cup for continuous dust ejection while operating and when stopped.

Frequency of maintenance of the filter depends on dust conditions at the operating site. The filter element must be serviced when clogged (maximum pressure drop for proper operation is 15" of water). The filter is equipped with a pressure drop indicator and the element should be changed based on its reading first and then by the maintenance intervals outlined.

MAINTENANCE

AIR/OIL COALESCER

The air/oil coalescer employs an element permanently housed within a spin-on canister. This is a single piece unit that requires replacement when it fails to remove the oil from the discharge air, or pressure drop across it exceeds 15 PSI. Dirty oil clogs the element and increases the pressure drop across it.

To replace element proceed as follows:

1. Shutdown compressor and wait for complete blow down (zero pressure).
2. Turn element counterclockwise for removal (viewing element from bottom).
3. Apply a film of fluid directly to seal on the new element.
4. Rotate element clockwise by hand until element contacts seal (viewing element from bottom).
5. Rotate element approximately one more turn clockwise with band wrench near the top of element.
6. Run system and check for leaks.

WARNING

DO NOT SUBSTITUTE ELEMENT. USE ONLY A GENUINE BOSS INDUSTRIES REPLACEMENT ELEMENT. THIS ELEMENT IS RATED AT 200 PSI WORKING PRESSURE. USE OF ANY OTHER ELEMENT MAY BE HAZARDOUS AND COULD IMPAIR THE PERFORMANCE AND RELIABILITY OF THE COMPRESSOR, POSSIBLY VOIDING THE WARRANTY AND/OR RESULTING IN DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

COALESCER OIL RETURN

This originates at the bottom of the air/oil coalescer and flows through a special recovery pipe and venturi nozzle. If the coalescer starts to fill with oil there is a good chance the venturi or pipe has been plugged. Consult factory for cleaning instructions.

MAINTENANCE

OIL FILTER

The compressor oil filter is a throwaway type cartridge. It is designed with a built-in bypass so that if there is a large restriction, due to cold oil or clogged element, the compressor will still be lubricated.

To replace filter proceed as follows:

1. Make sure system pressure is relieved.
2. Unscrew with 14mm allen wrench.
3. Remove oil filter from housing.
4. Replace the oil filter screen element.
5. Reinsert oil filter screen into housing and tighten with 14mm allen wrench.
6. Add oil (total system takes one gallon), re-tighten filler cap.
7. Check for leaks in operation.

WARNING

DO NOT SUBSTITUTE ELEMENT. USE ONLY A GENUINE BOSS INDUSTRIES REPLACEMENT ELEMENT. USE OF ANY OTHER ELEMENT MAY BE HAZARDOUS AND COULD IMPAIR THE PERFORMANCE AND RELIABILITY OF THE COMPRESSOR, POSSIBLY VOIDING THE WARRANTY AND/OR RESULTING IN DAMAGE TO PROPERTY AND SERIOUS BODILY HARM.

COMPRESSOR OIL COOLER

The interior of the oil cooler should be cleaned when the pressure drop across it at full flow exceeds 25 PSI. The following procedure has been recommended by the vendor who supplies the cooler:

1. Remove cooler.
2. Circulate a suitable solvent to dissolve and remove varnish and sludge.
3. Flush generously with compressor lubricant
4. Once the coolers are reinstalled, fill the compressor with the proper fluid to appropriate level.

MAINTENANCE

SHAFT SEAL

SHAFT SEAL INSTALLATION INSTRUCTIONS:

1. Remove hydraulic motor, drive coupling and adapter housing from face of compressor
2. Remove coupling hub from compressor shaft.
3. Remove 4 screws from shaft seal cover and press seal out.
4. Pull seal wear sleeve off shaft with puller
5. Clean shaft surface removing all burrs from shaft where the wear sleeve gets installed.
6. Press new wear sleeve on to shaft. Oil heating new wear sleeve to 212°F approximately aids in the installation of this ring.
7. Press new seal into housing with seal assembly tool, until contact with snapping.
8. Temporarily install new seal installation cone over shaft to protect seal during reinstallation.
9. Reinstall cover.
10. Reinstall coupling hub to compressor shaft.
11. Reinstall adapter housing, drive coupling, and hydraulic motor to face of compressor

TROUBLESHOOTING

This section contains instructions for troubleshooting the equipment following a malfunction.

The troubleshooting procedures to be performed on the equipment are listed below. Each symptom of trouble for a component or system is followed by a list of probable causes of the trouble and suggested procedures to be followed to identify the cause.

In general, the procedures listed should be performed in the order in which they are listed, although the order may be varied if the need is indicated by conditions under which the trouble occurred. In any event, the procedures which can be performed in the least amount of time and with the least amount of removal or disassembly of parts, should be performed first.

UNPLANNED SHUTDOWN

When the operation of the machine has been interrupted by an unexplained shutdown, check the following:

1. Check the fuel level and truck dash gauges and indications for possible engine problems.
2. Check the compressor discharge temperature/switchgauge. If the latching relay circuit is tripped the 12VDC solenoid will lose power and divert hydraulic oil back to the reservoir. The compressor blowdown pressure switch and the temperature switchgauge will not allow power to the hydraulic solenoid until the air has blown down and the temperature has dropped into its normal operating range and the push button has been reset. Take compressor in for service once a high temperature shutdown has occurred. Failure to do so will void your warranty.
3. Check that the compressor oil is at proper level.
4. Check oil cooler for dirt, slush, ice on the fins, or any other obstructions to the cooling air flow.
5. Make a thorough external check for any cause of shutdown such as broken hose, broken oil lines, loose or broken wire, etc.

TROUBLESHOOTING

IMPROPER DISCHARGE PRESSURE

1. If discharge pressure is too low check the following:
 - A. Leaks in service line.
 - B. Restricted compressor inlet air filter
 - C. Faulty control system operation (i.e.N.O. regulated air solenoid is allowing air through all the time.)
 - D. Low compressor oil level.
2. If discharge pressure is too high, safety valve blows, or system shuts down on high pressure, check the following:
 - A. Faulty discharge pressure switchgauge.
 - B. Coalescer plugged up.
 - C. Faulty safety valve.
 - D. N.O. regulated air solenoid is not opening.
3. Sump relief valve activates:
 - A. Inlet valve leaking or open.
 - B. Faulty relief valve.
 - C. Faulty N.O. regulated air solenoid, or pressure switchgauge.

SUMP PRESSURE DOES NOT BLOW DOWN

If after the compressor is shutdown, pressure does not automatically blow down, check for:

1. Normally open regulated air solenoid may be stuck closed.
2. Blockage in air line from downstream of the coalescer to the inlet valve.
3. Inlet valve orifice is clogged.

OIL CONSUMPTION

Abnormal oil consumption or oil in service line, check for the following:

1. Over filling of oil sump.
2. Leaking oil lines or oil cooler
3. Plugged oil return line: check nozzle beneath the sightglass.
4. Defective coalescer element.
5. Compressor shaft seal leakage.

TROUBLESHOOTING

COALESCER PLUGGING

If the coalescer element has to be replaced frequently because it is plugging up, it is an indication that foreign material may be entering the compressor inlet or the compressor oil is breaking down.

Compressor oil can break down prematurely for a number of reasons.

(1) Extreme operating temperature, (2) negligence in draining condensate from oil sump, (3) using the improper type of oil, (4) dirty oil, (5) oil return nozzle plugged.

The complete air inlet system should be checked for leaks.

HIGH COMPRESSOR DISCHARGE TEMPERATURE

1. Check compressor oil level. Add oil if required (see Section for oil specifications).
2. Check thermal valve operation.
3. Clean outside of oil cooler
4. Clean oil system (cooler) internally
5. Check fan relay harness.

COMPRESSOR OPERATION

Before starting the compressor, read this section thoroughly. Familiarize yourself with the controls and indicators, their purpose, location, and use.

CONTROL OR INDICATOR	PURPOSE
TEMPERATURE SWITCHGAUGE	Monitors the temperature of the air/fluid mixture leaving the compressor. The normal reading should be approximately 175 to 210 degrees F. Sends signal to relay when the compressor reaches 240 degrees temperature and the compressor will shut down.
PRESSURE SWITCHGAUGE	Monitors the pressure inside the sump tank. When the pressure reaches 165 PSI the compressor will shut down.
HOURLMETER	Indicator accumulated hours of actual compressor operation.
FLUID LEVEL SIGHTGLASS	Indicates fluid level in the sump. Proper level should be between midpoint and top of the sightglass. Check this level when the compressor is disengaged and the vehicle is parked on level ground.
PRESSURE RELIEF VALVE	Vents sump pressure to the atmosphere if the pressure inside the sump exceeds 175 PSI.
COMPRESSOR INLET CONTROL VALVE	Regulates the amount of air intake in accordance with the amount of compressed air being used. Isolates fluid in compressor unit on shutdown.
N.O. REGULATED AIR SOLENOID	Sends air pressure to intake valve for automatic regulation.
MINIMUM PRESSURE VALVE	Restricts air flow to balance sump and service air pressure. Assures a minimum of 65 PSI to maintain compressor lubrication.

COMPRESSOR OPERATION

OPERATING CONDITIONS

The following conditions should exist for maximum performance of the compressor. The truck should be as close to level as possible when operating. The compressor will operate on a 15 degree sideward and lengthwise tilt without any adverse problems. Operation in ambient temperatures above 100°F (38°C) may experience high temperature shutdown.

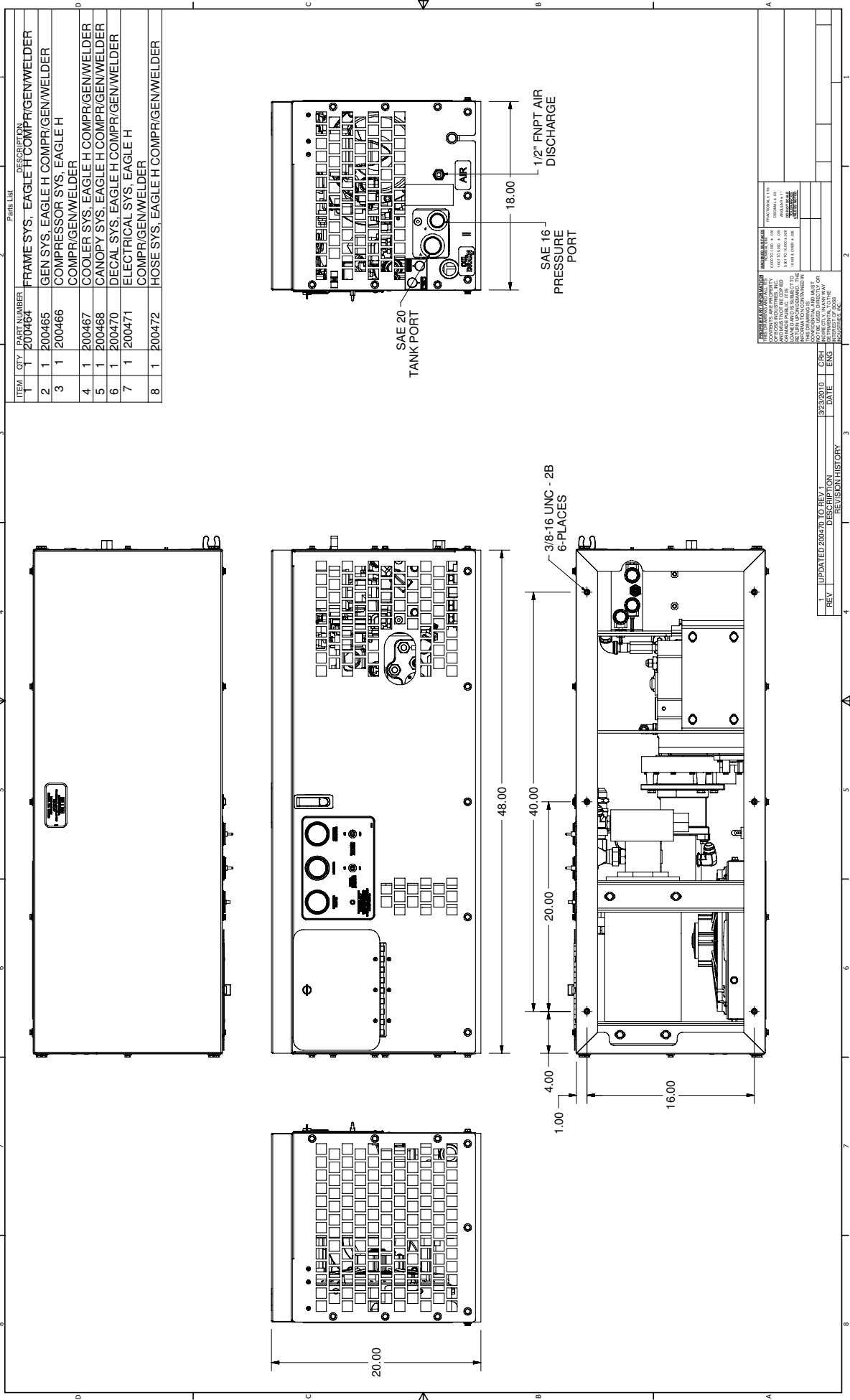
INITIAL START-UP

1. Start power source and allow time for warm-up.
2. Engage hydraulic system.
3. Engage the compressor by moving the compressor toggle switch to the “on” position. Let the compressor run for several minutes to allow the compressor oil to warm-up before applying air demand.
4. Engage the welder/generator by moving the welder/generator toggle switch to the “on” position. Let the generator run until the speed is constant before applying an electrical load. See the welder/generator manual for detailed functions of the Eagle welder/generator

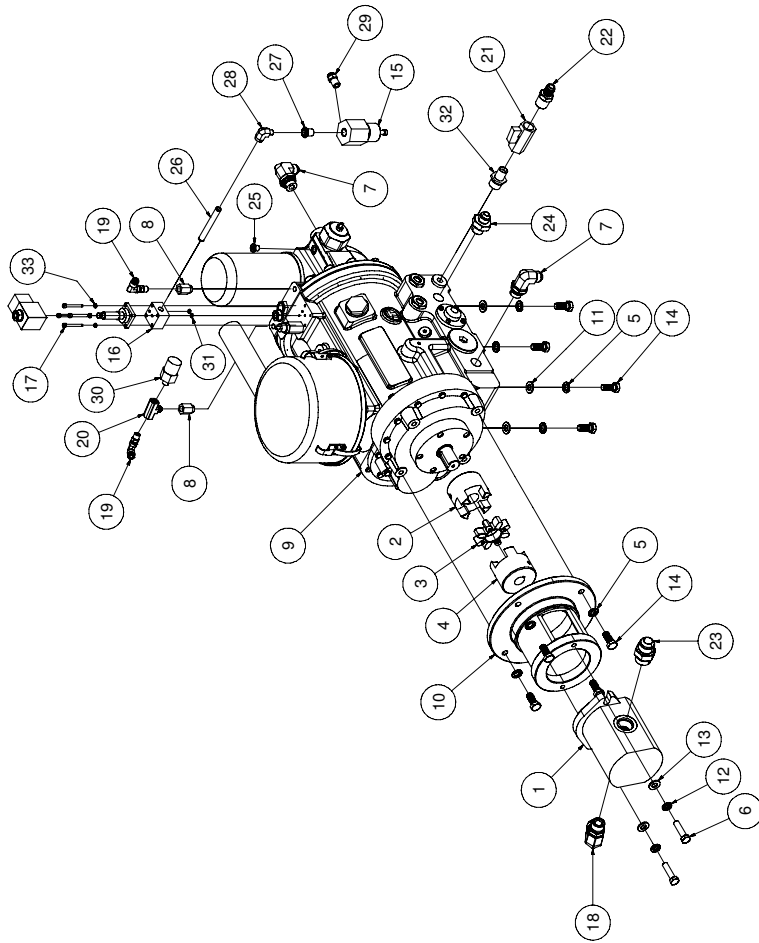
NOTE

THE EAGLE 6 IN 1 IS DESIGNED TO RUN MULTIPLE FUNCTIONS SIMULTANEOUSLY. THE COMPRESSOR CAN BE RUN WITH EITHER THE GENERATOR OR THE WELDER WITHOUT SACRIFICING OUTPUT ON EITHER FUNCTION.

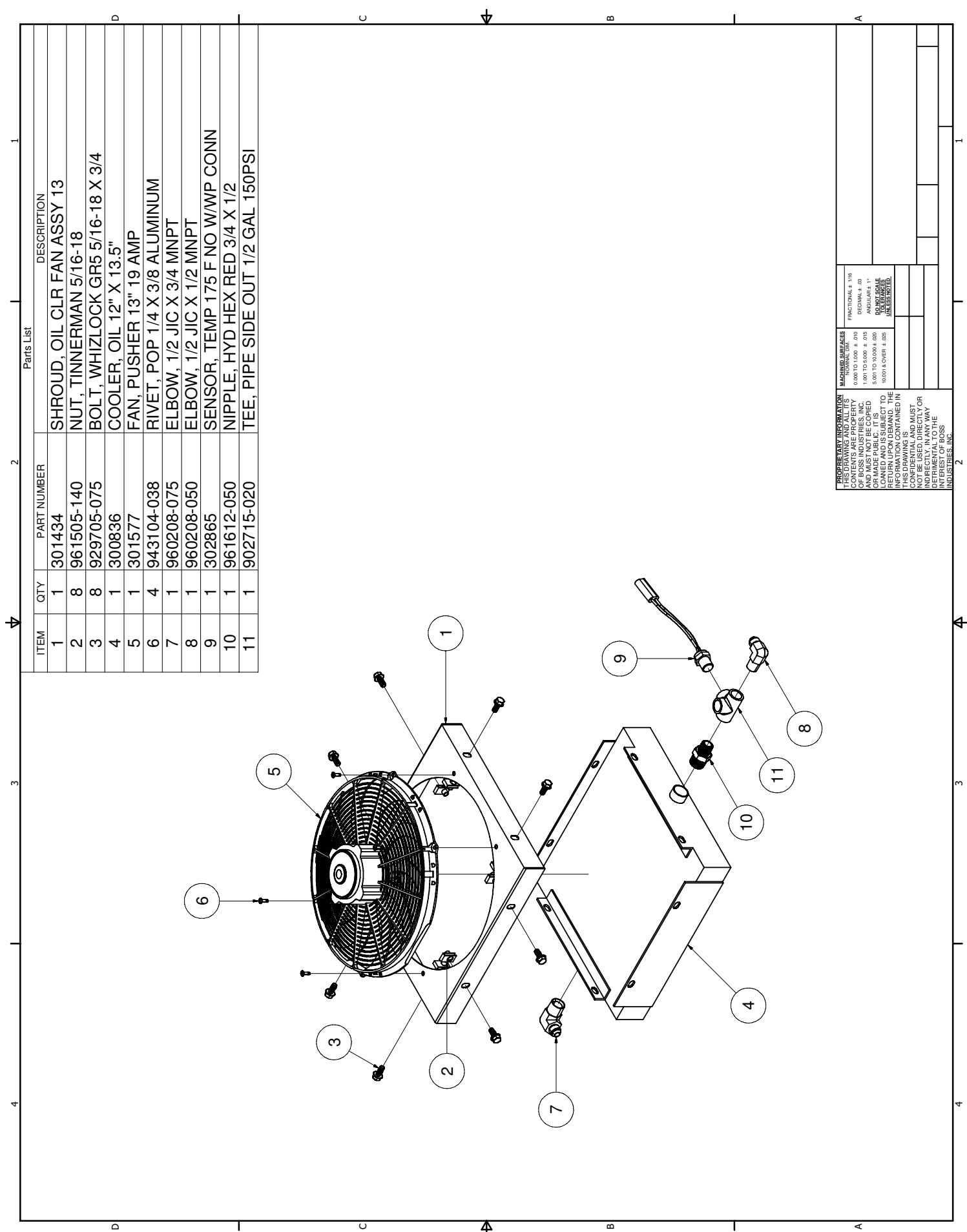
**PARTS AND
ILLUSTRATION
SECTION**



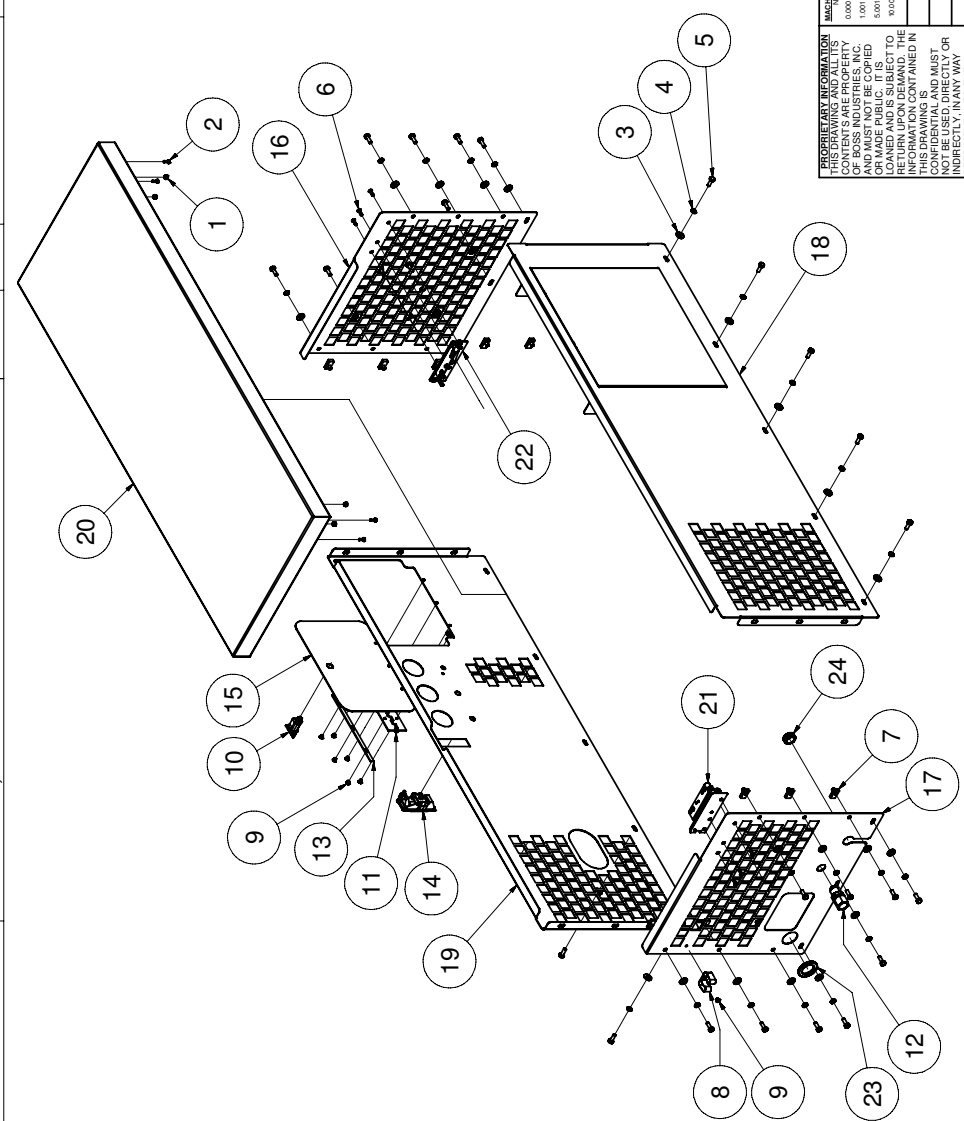
Parts List			Parts List		
ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY
1	1	301665	MOTOR, 1.58 CIR SAE "A" 3/4 ROUND SIDE PORT	9	1
2	1	302101	HUB, COUPLING 25MMX8X7 KYWYR28-02STL	10	1
3	1	302103	SPIDER, COUPLING R28-02 98SHR RED	11	4
4	1	302455	HUB, COUPLING 3/4 ROUND W 3/16 KYWY	12	2
5	8	938810-220	WASHER, LOC 10MM	13	2
6	2	929806-150	BOLT, HEX GR8 3/8-16 X 1 1/2	14	8
7	2	970608-050	ELBOW, HYD 1/2 MBSPP X 1/2 MJIC	15	1
8	2	970802-012	ADAPTER, 1/8 MBSPP X 1/8 FNPT	16	1
				17	4
				18	1
				19	2
				20	1
				21	1
				22	1
				23	1
				24	1
				25	1
				26	1
				27	1
				28	1
				29	1
				30	1
				31	2
				32	1
				33	4



PROPRIETARY INFORMATION CONTAINS TRADE SECRETS AND/OR OTHER INFORMATION WHICH IS UNLAWFULLY DISCLOSED OR USED WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.	
FUNCTIONAL TITLE NAME ADDRESS CITY STATE ZIP	FUNCTIONAL TITLE NAME ADDRESS CITY STATE ZIP



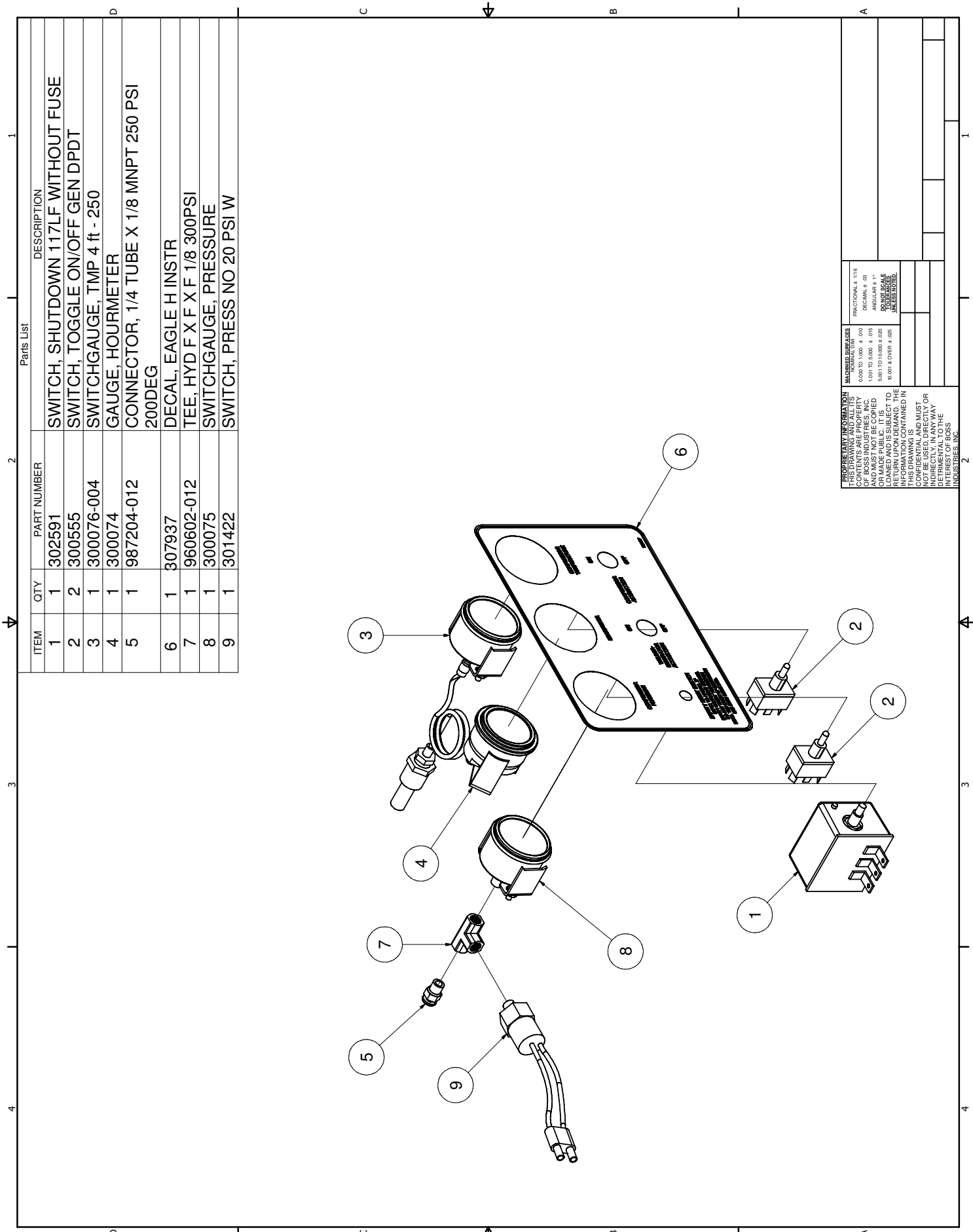
Parts List				Parts List				Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	924301-156	NUT, NYLOC GR5 #8-32	13	1	306944	SPACER, 80200 AHBI AIR FILTER PANEL				
2	4	931601-050	SCREW, MACH RD HD #8-32 X 1/2	14	1	301383	LATCH, BULLET				
3	28	938604-071	WASHER, FLAT GR5 1/4	15	1	307929	PANEL, ACCESS WLEDER/GEN CONTROL				
4	28	938004-062	WASHER, LOC GR5 1/4	16	1	307930	PANEL, EAGLE H WELDER/GEN END				
5	28	929104-075	BOLT, HEX GR5 1/4-20 X 3/4	17	1	307931	PANEL, EAGLE H COMPRESSOR END				
6	6	943104-038	RIVET, POP 1/4 X 3/8 ALUMINUM	18	1	307932	PANEL, EAGLE H COOLER SIDE				
7	12	961504-090	NUT, TINNEMAN 1/4-20	19	1	307933	PANEL, EAGLE H WELDER/GEN SIDE				
8	1	302613	CLIP, 1/2" HYD HOSE HOLDER	20	1	307934	HOOD, EAGLE H				
9	7	943103-025	RIVET, POP 3/16 X 1/2 ALUMINUM	21	1	307935	HINGE, RH SELF-OPENING				
10	1	306943	LATCH, WING KNOB OPERATED VISE ACTION	22	1	307936	HINGE, LH SELF-OPENING				
				23	1	307433	GROMMET, 1 7/8 OD X 1 1/4 ID X 1/16 THK				
11	1	306891	HINGE, ALU 80200	24	1	302011-013	GROMMET, 1.000 OD X 1/2 ID X 1/8 THK				
12	1	962008-050	BULKHEAD, 1/2 JIC X 1/2 FNPT	NS	1	307982	DECAL, EAGLE H LOGO				



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MACHINING SURFACE
 0.000 TO 1.000 ± .010
 1.001 TO 10.000 ± .015
 10.001 TO 100.000 ± .020
 100.001 & OVER ± .025

FINISHES
 FRACTIONAL ± .116
 DECIMAL ± .01
 ANGULAR ± 1°
 DO NOT SCALE
 UNLESS NOTED



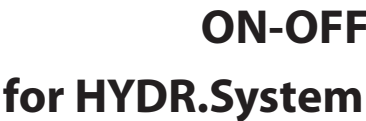
Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	302591	SWITCH, SHUTDOWN 117LF WITHOUT FUSE
2	2	300555	SWITCH, TOGGLE ON/OFF GEN DPDT
3	1	300076-004	SWITCHGAUGE, TMP 4 ft - 250
4	1	300074	GAUGE, HOURMETER
5	1	987204-012	CONNECTOR, 1/4 TUBE X 1/8 MNPT 250 PSI
6	1	307937	DECAL, EAGLE H INSTR
7	1	960602-012	TEE, HYD F X F 1/8 300PSI
8	1	300075	SWITCHGAUGE, PRESSURE
9	1	301422	SWITCH, PRESS NO 20 PSI W

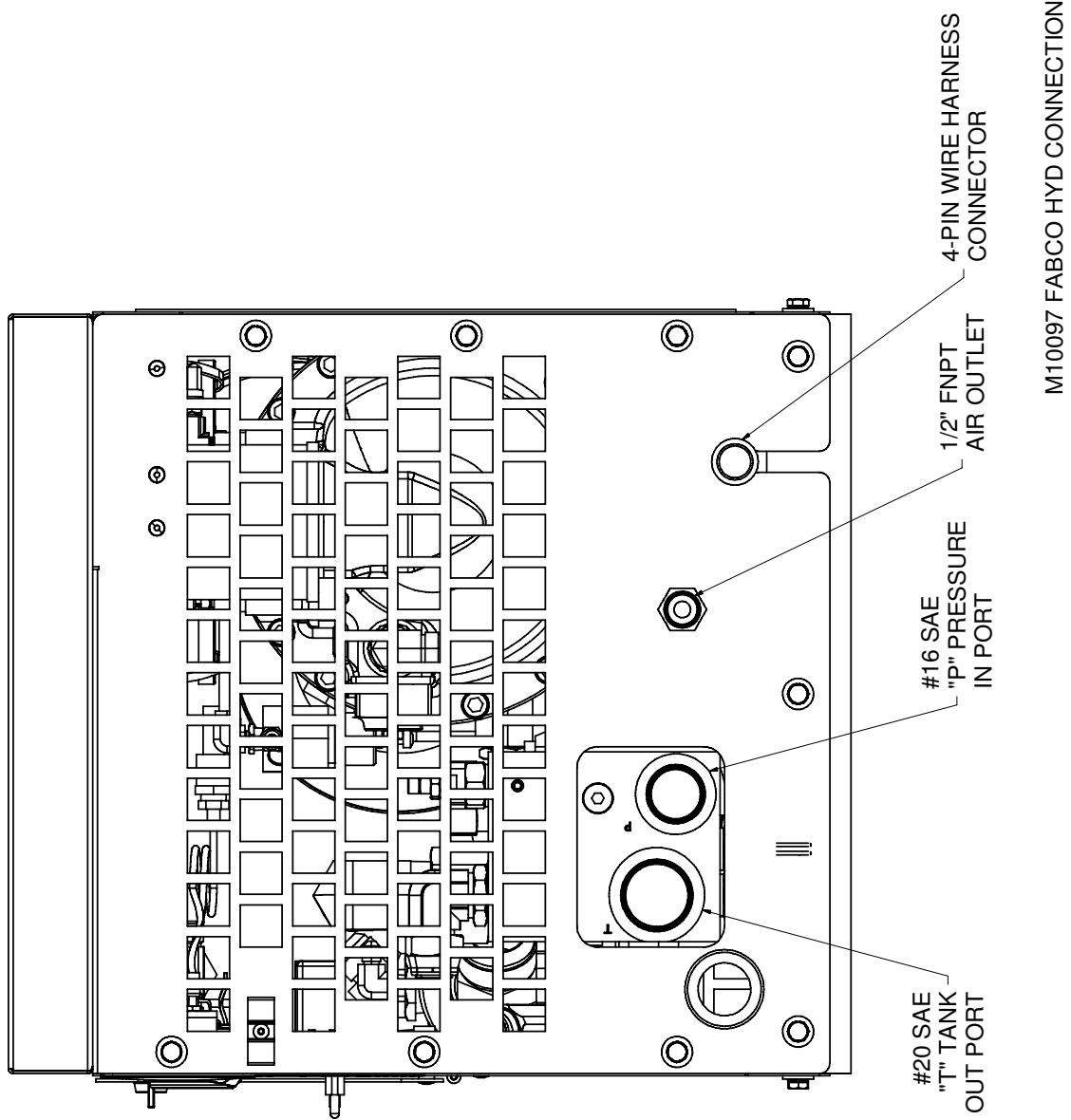
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MACHINE DIMENSIONS
NORMAL DIM
0.000 TO 1.000 ± .010
1.000 TO 5.000 ± .015
5.000 TO 10.000 ± .020
10.000 & OVER ± .025

FRACTIONAL ± 1/16
DECIMAL ± .03
ANGULAR ± 1°
HOLE LOCATIONS ± .005
HOLE DIAMETERS ± .005
UNLESS NOTED



To ener. Hydr. System

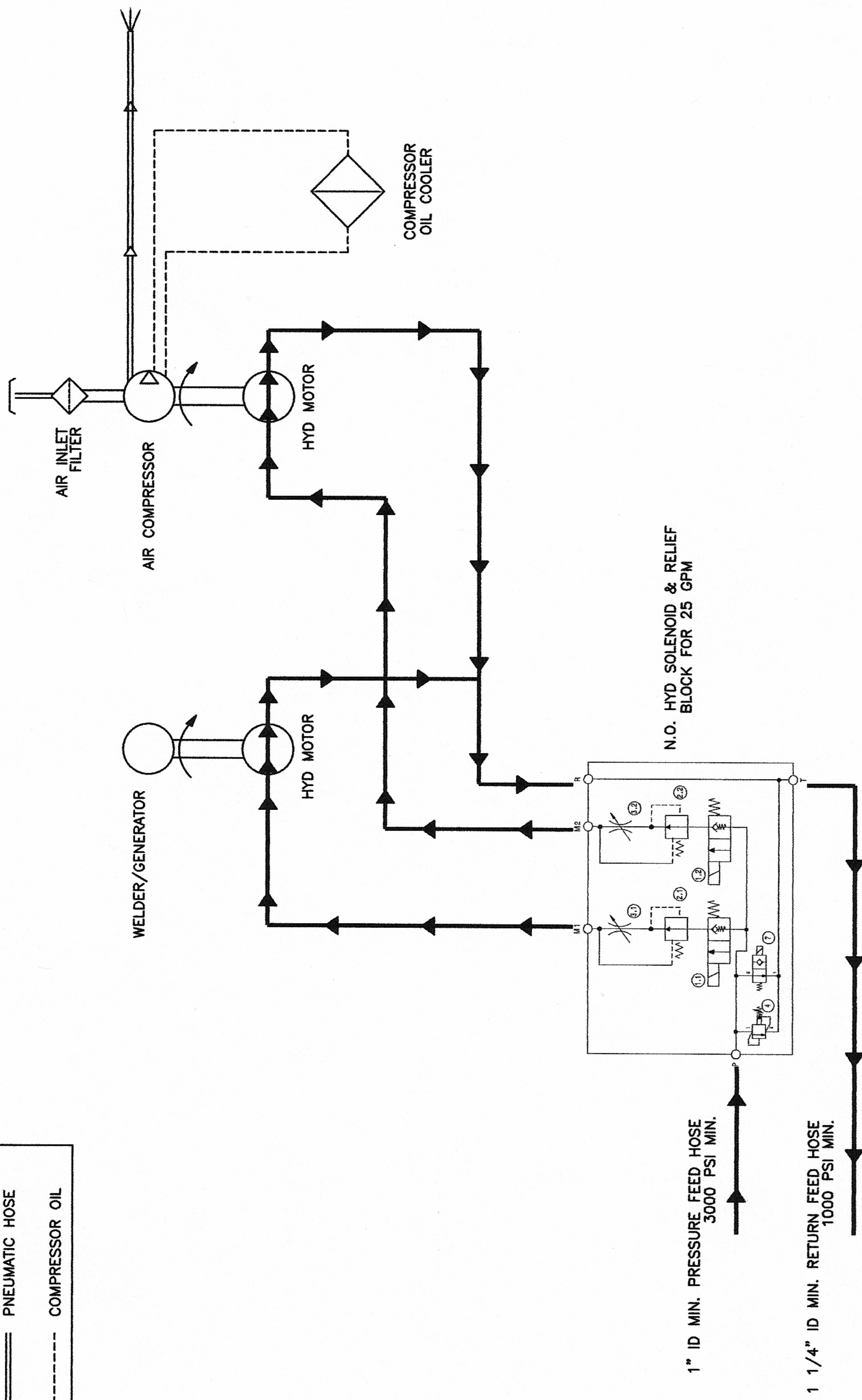


LEGEND

— HYD HOSE

== PNEUMATIC HOSE

--- COMPRESSOR OIL



AIR/OIL SCHEMATIC

RECOMMENDED SPARE PARTS

PART NUMBER	DESCRIPTION
302601	ELEMENT, OIL FILTER SCI8
307152	ELEMENT, AIR FILTER SCI7/8
302600	COALESCER, SPIN-ON SCI8/NK40
307092	KIT, SHAFT SEAL REPAIR SCI8G
302103	SPIDER COUPLING (COMPRESSOR)
302936	KIT, HYD MOTOR SHAFT SEAL REPAIR

Instructional Procedures for Installation of the EAGLE 6 in 1 machine.

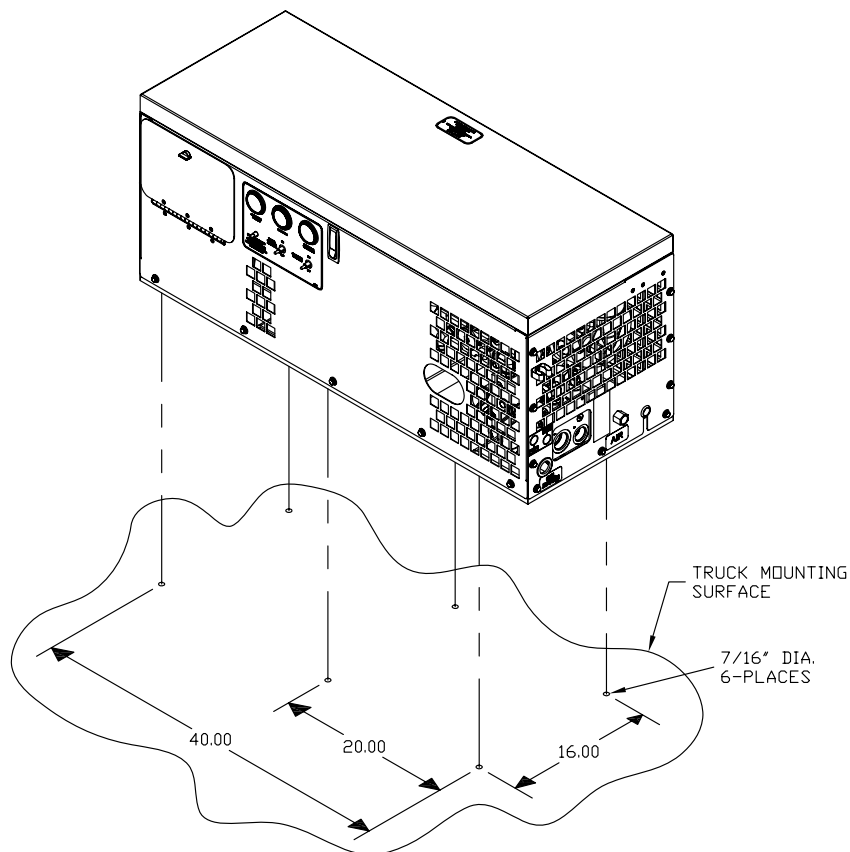
This unit should be installed only by those who have been trained and delegated to do so and who have read and understand both the operators' manual and the installation manual. Failure to follow the instructions, procedures, and safety precautions in this manual may result in accidents and injuries.

Install, use, and operate this unit only in full compliance with all pertinent O.S.H.A. requirements and all pertinent Federal, State, and Local codes or requirements and with BOSS INDUSTRIES, Inc. instructions.

Do not modify this compressor except with written factory approval.

1. MOUNTING COMPRESSOR

When mounting the compressor care should be taken to ensure that its location does not impede the operation of other components on the vehicle. For example, if your vehicle is equipped with a crane, you must make sure the compressor will not interfere with the swing of the crane. In addition, the compressor should be installed in an area that permits cool ambient air to enter the air filter and the hot air from the cooler to exhaust without recirculating into the air filter. One last consideration in the mounting should be the routing of hoses and electrical wires. The frame mounting holes are shown below and the unit should be secured to the flat skid with 3/8 inch grade 8 bolts, washers should be used on the mounting surface.



INSTRUCTIONAL PROCEDURES

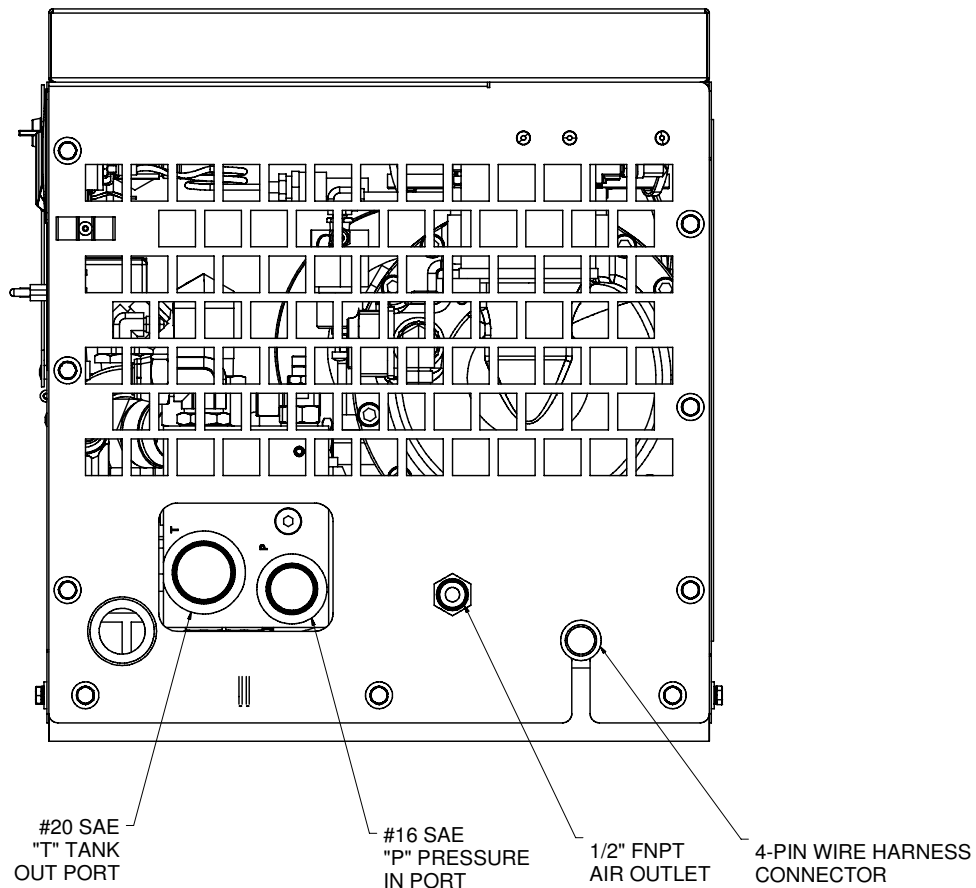
2. INSTALLING THE WIRING & CONNECTING THE HYDRAULIC HOSES

This unit is shipped from the factory with all necessary internal wiring installed. The only remaining wiring necessary is the wiring needed to interface your power source with the BOSS INDUSTRIES unit.

1. Connect red wire to battery 12VDC power.
2. The yellow wire should be spliced into 12VDC switched feed for the on/off switch per the end-users location.
3. Connect black wire to ground.
4. The orange wire is used to activate on electronic speed control circuit if required. Please contact the factory with engine specifications for further assistance.

CONNECTING THE HOSES

The hydraulic hoses to the compressor should be connected directly to the hydraulic control block. The pressure "P" input line should be made from a good quality high pressure (min. 3000 PSI) hydraulic hose 1" i.d. The return line to tank "T" can be made from a medium pressure (min. 1000 PSI) hydraulic hose 1-1/4" i.d. Care should be taken to see that the hoses are not installed with kinks or bends that inhibit flow of the hydraulic oil. Lack of flow could result in damage to the motor and compressor. Lastly check to make sure hoses are not in contact with sharp objects or edges that may fray, chafe or cut them over time. Secure all hoses with tie down straps or clamps.



M10097 FABCO HYD CONNECTION

INSTRUCTIONAL PROCEDURES

3. PRE-START-UP INSPECTION CHECKS

This inspection should be done prior to removing truck from bay. Final testing of the system, including checking for leaks, is to be done outside.

ALL TRUCKS SHOULD BE ROAD TESTED PRIOR TO STARTING INSTALLATION TO ISOLATE ANY PREVIOUS TRUCK PROBLEMS.

- I. Check sales order to verify that all compressor related items originally ordered have been installed or are ready to ship with the truck. This would include any special filters, oils, hoses, options, etc.
- II. Vacuum all areas that have metal or plastic shavings. Wipe all fingerprints off unit and vehicle.
- III. Apply decals to proper location. Make sure that the area is cleaned prior to applying decals. All decals should have a professional appearance upon application.
- IV. Check all assemblies, clamps, fittings, angles, nuts, and bolts to ensure they are properly tied and secured to the vehicle or flat skid. This is a very critical area of inspection. The vehicle should not be moved until this inspection has been completed.
- V. Record all serial numbers for this installation.
 - A. Hydraulic Pump Data
 - B. Air-End Serial Number
 - C. BOSS INDUSTRIES Serial Number
 - D. Note any special applications relating to specific installations.
- VI. Check all fluid levels (position the unit on a level surface so that proper amount of fluids can be added).
 - A. Fuel to provide for three hours of operation.
 - B. Compressor.
Check the compressor oil sump level (see lubricant section of the operator and parts section for type of lubricant to use). 1 Add oil if needed. 2. Additional oil may need to be added after test. 3. Top off oil level to half the sightglass when finished with the test.
 - C. Any other applicable fluids.

4. INITIAL START-UP AND TEST

- A. Read the operation section in the operator and parts manual carefully before proceeding onto the initial start-up.
- B. Start power source and allow for warm-up.

INSTRUCTIONAL PROCEDURES

C. Engage hydraulic system. Flip switch to “compressor activation” switch. Let the compressor run for several minutes to allow compressor to warm up. Flip “welder-generator activation” switch for welder/generator use.

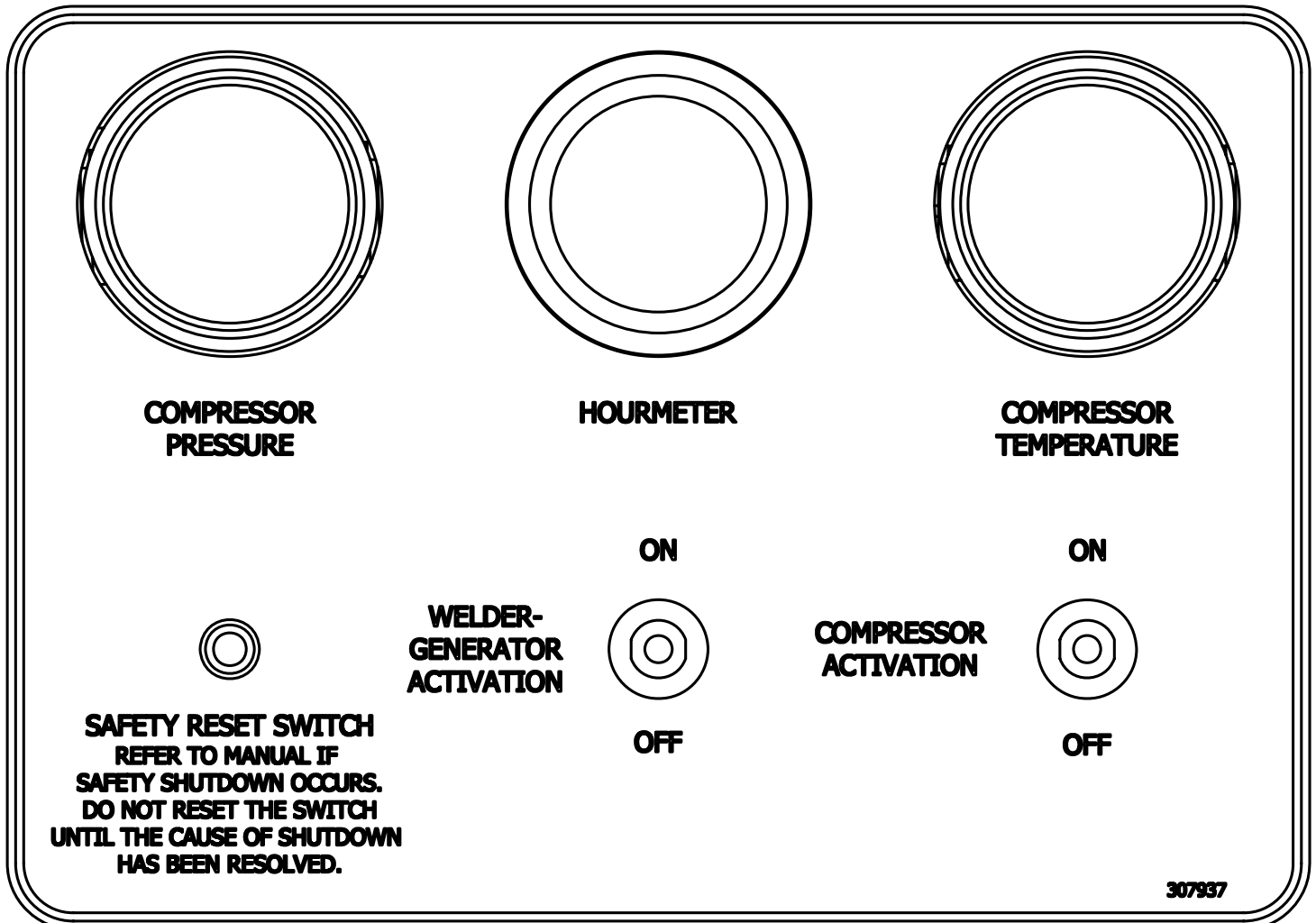
CAUTION

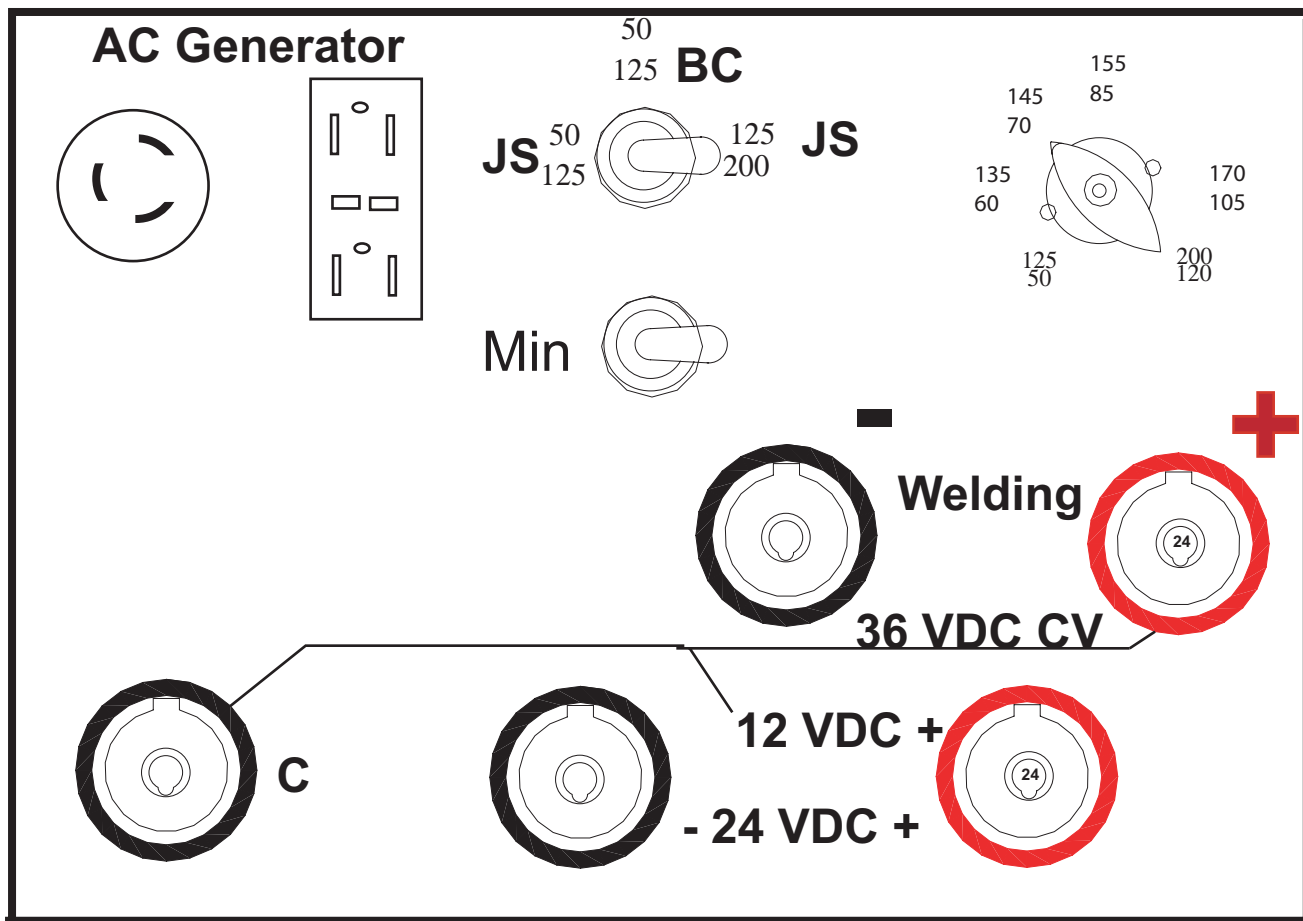
DO NOT RUN THE COMPRESSOR IN A REVERSE ROTATION FOR PERIODS LONGER THAN 5 SECONDS. CONTINUED OPERATION IN THIS MANNER WILL RESULT IN EXTENSIVE COMPRESSOR UNIT DAMAGE.

The safety shutdown switch should be wired in series with the solenoid that opens the flow of the hydraulic oil to the compressor drive motor. In cases of high temperature and/or pressure, the closing of the valve will stop the compressor operation.

Safety circuit testing for EAGLE 6 in 1

Safety circuit testing can be done in the following manner. Start the truck. Engage the compressor. Take a screwdriver and touch the 1/16” allen head screw on the face of the temperature gauge and simultaneously touch the outside ring on the face of the gauge. This should shut off the power to the solenoid of the hydraulics. Push the button in on the shutdown switch to reset. Repeat the test with the pressure gauge if solenoid does not stop flow to compressor, check wiring.





For WELDING

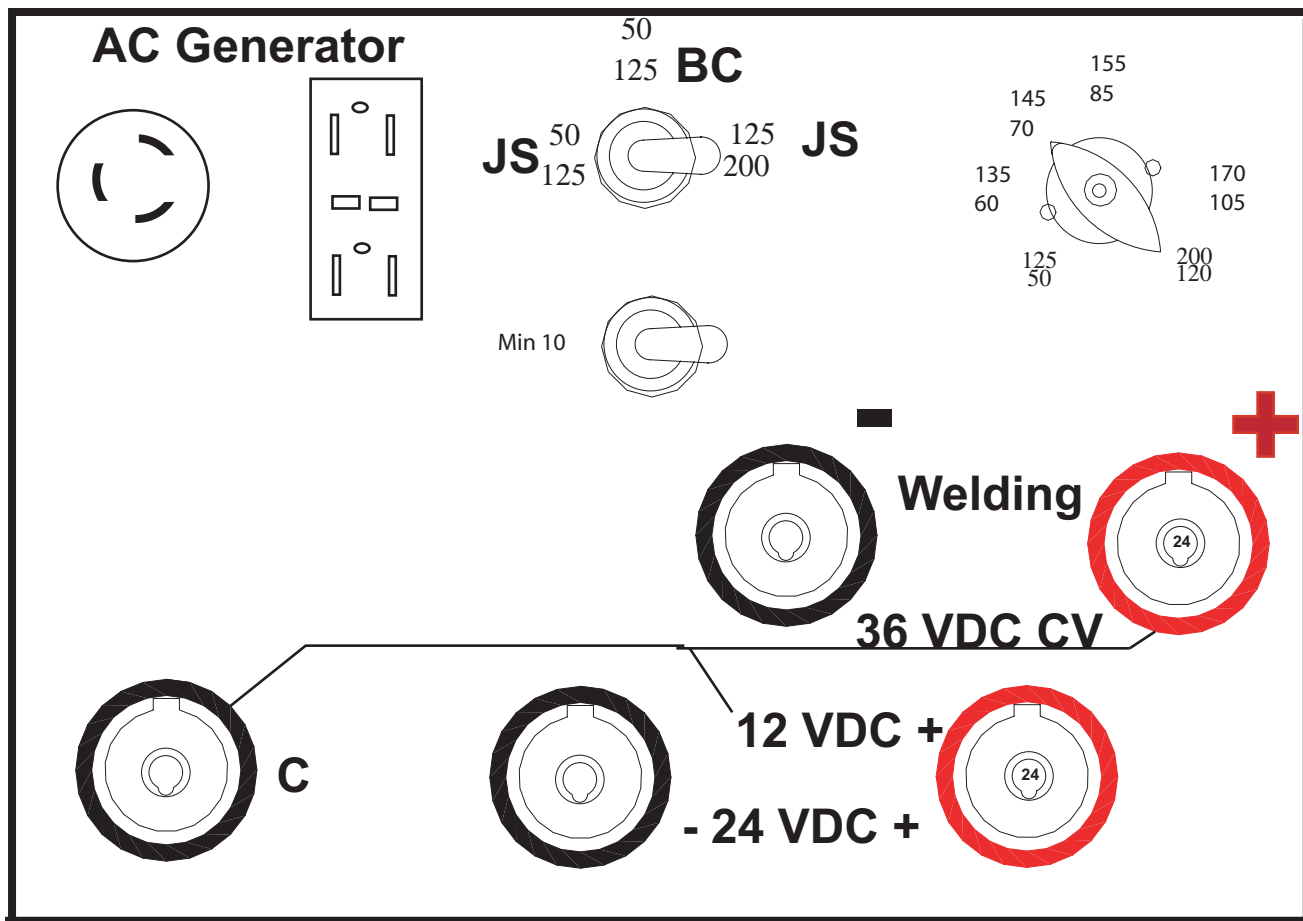
Connect Welding Leads to Pos and Neg Welding Terminals
 Set Range Switch to desired Welding Range
 Set rotary Switch to desired Amperage
 With the Min 10 Switch you can lower the Amperage 10 Amps

For Battery Charging 12 VDC

Connect Battery Cables to lower left and lower right Terminals
 Set Range Switch to Center (BC) Position
 Connect Cables to Battery. Select Charging Amps w. rotary Sw.

For Battery Charging 24 VDC

Repeat 12 Steps except connect cables to lower Center and lower right Terminals.



For Jumpstarting 12 V Batteries

Connect Cables to lower left and right Terminals
 Set Range Switch to left or right Position (right is higher charging)
 Set Rotary Switch to highest Position
 crank Engine

For Jumpstarting 24 V Batteries

Connect Cables to lower right and Center Terminals
 Repeat above Switch Settings

For wire Feeders

Connect Wire feeder to lower left and POS Weld Terminal
 Set Switches to desired Amperage.

General Operating Instructions

This hydraulically-driven welder-generator consists of 3 main components :

- a) hydraulic drive
- b) DC welder
- c) AC generator

For the welder or generator to function properly the hydraulic drive must maintain the proper speed (3600 – 3720 for 60 Hz, 3000-3120 for 50 Hz) under all conditions. Always allow the set to run for at least 2 minutes before operating the welder or generator.

Operation

- 1) Connect welder leads (observe polarity).
- 2) **Set Range Switch to the highest position for startup**
- 3) Fine tune amp selector switch to desired amperage.
- 4) Start hydraulic system and turn Welder on (On Off Switch optional)

After waiting for a few minutes the welder is now ready for welding.

Increase amperage if necessary or decrease if amperage is too high.

Never operate any switches during welding.

The generator can be used during welding operation. A flicker and low Voltage in the lights will occur every time you strike an arc, this cannot be avoided.

In order to obtain rated output of your generator section, the range switch must be in the high position . The generator output is 120 VAC at 60 Hz and 230 V at 50 Hz. An optional 120/240 panel is available.

FABCO Welders with Jumpstart Option

To use the Fabco Welders Jumpstart Option proceed as follows

For 12 Volt Jumpstarting

- a) Set all switches to lowest position, except Range put in High**
- b) Connect Positive Cable to Terminal marked 12 Volt on Welder, connect other end of Cable to Positive on Battery**
- c) Connect Negative Cable to Negative Weld Terminal on Welder
Connect other End to the Negative Terminal of Battery**
- d) Start Welder , allow Battery to be charged for 1 to 2
minuts, Crank Engine**
- e) Remove Cabels after Engine starts.**

For 24 Volt Jumpstarting

- f) Set all switches to lowest position , except Range put in High**
- g) Connect Positive Cable to Positive Weld Terminal on
Welder, connect other end of Cable to Positive on Battery**
- h) Connect Negative Cable to Negative Weld Terminal on Welder
Connect other End to the Negative Terminal of Battery**
- i) Start Welder , allow Battery to be charged for 1 to 2
minuts, Crank Engine**
- j) Remove Cabels after Engine starts.**

Hydro – Arc

General Installation

The Hydro-Arc is a hydraulically-driven AC welder/generator that will deliver rated amperage when the proper flow is delivered to it's hydraulic drive. Oil temperature should be between 100-140°F. A 10-micron filter is also recommended to maintain the drive at its maximum performance. Depending on the size of the reservoir, an oil cooler must be used; the smaller the reservoir; the larger the cooler.

The tank should **NEVER** be smaller than 2 times the required GPM.

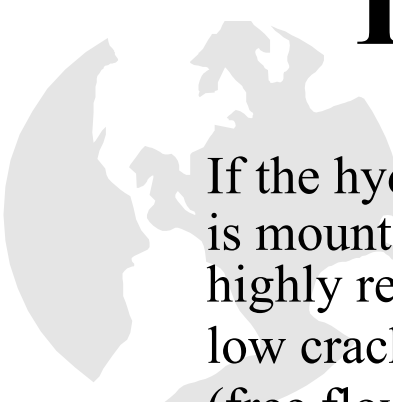
When starting a new hydraulic system, we strongly recommend that you connect the pressure line to the return, bypassing the hydraulic welder drive. You should operate the system for 10 minutes that way. This will clean the system; otherwise, all kinds of problems will occur. After connecting the pressure and return line to the welder's hydraulic drive, state your system at a low speed, slowly increasing the speed until you reached the proper operating speed. While setting up a hydraulically-driven welder or generator, it is necessary to check the speed setting of the hydraulic drive, since most systems will vary in many ways (temperature – flow – viscosity / type of oil – etc.) from our test set up.

NEVER allow the welder to exceed 3900 RPM.

The return line pressure, under no circumstances, should reach 100 PSI or seal failure will occur.

The case drain must be connected directly to the tank (do NOT connect to the return line). We strongly recommend that the case drain be connected to the upper portion of the tank. Making it easier for the case drain oil to return to the tank. Return line must be $\frac{3}{4}$ or larger.

Important Hydraulic Circuit Installation Information



If the hydraulically-driven EAGLE System is mounted below the system tank, it is highly recommended that a check valve with a very low cracking pressure is installed in the case drain line (free flow motor to tank, blocking tank to motor). This will eliminate seal leakage during non-use time. It is also recommended that the case drain be connected directly to the top of the tank and not through a cooler or filter.

Hydro-600

General Installation

The Hydro-600 is a hydraulically-driven AC generator that will deliver its rated output power when the proper flow at 2000 PSI is connected to its hydraulic drive. Oil temperature should be between 100-140° F. A 10 micron filter is also recommended to maintain the drive at its maximum performance. Depending on the size of the reservoir, an oil cooler must be used; the smaller the reservoir, the larger the cooler.

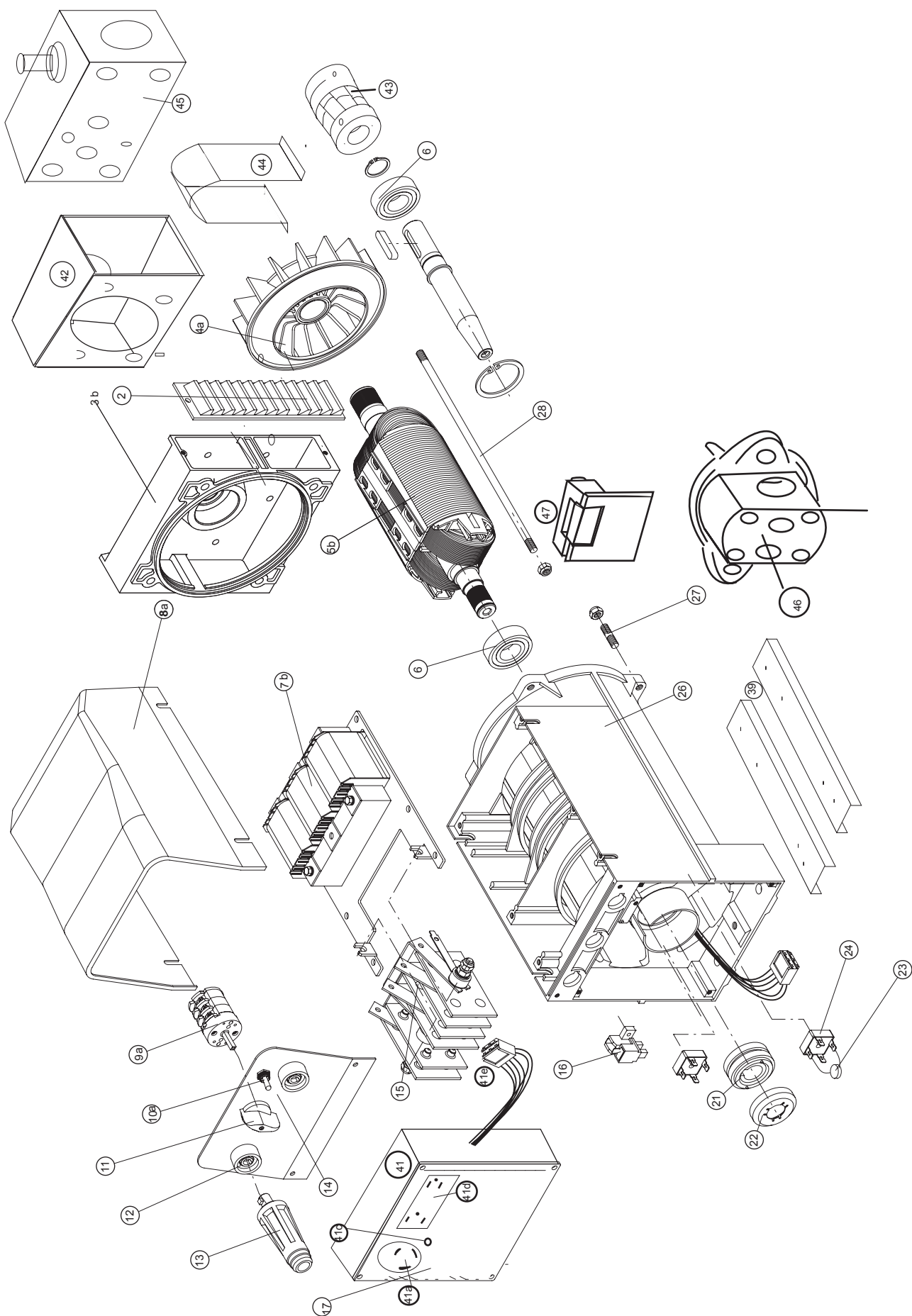
The tank should **NEVER** be smaller than 2 times the required GPM.

When starting a new hydraulic system, we strongly recommend that you connect the pressure line to the return line, bypassing the hydraulic generator drive. Operate the system for 10 minutes that way. This will clean the system; otherwise all kinds of problems will occur. After connecting the pressure and return line to the generator's hydraulic drive, start your system at a low speed, slowly increasing the speed until you reached the proper operating speed. While setting up a hydraulically-driven generator, it is necessary to check the speed setting of the hydraulic drive, (No Load speed=3720, Full Load speed =3600 RPM) since most systems will vary in many ways (temperature - flow - viscosity/type of oil - etc.) from our test set up.

NEVER allow the generator to exceed 3900 RPM.

The return line pressure, under no circumstances, should reach 100 PSI or seal-failure will occur.

The case drain must be connected directly to the tank (do **NOT** connect to return line). Return line must be 3/4 or larger.



200 - 225 - 250 - 300 DC Welder Parts Illustr.

DC Welder Parts List

Page 1 of 2

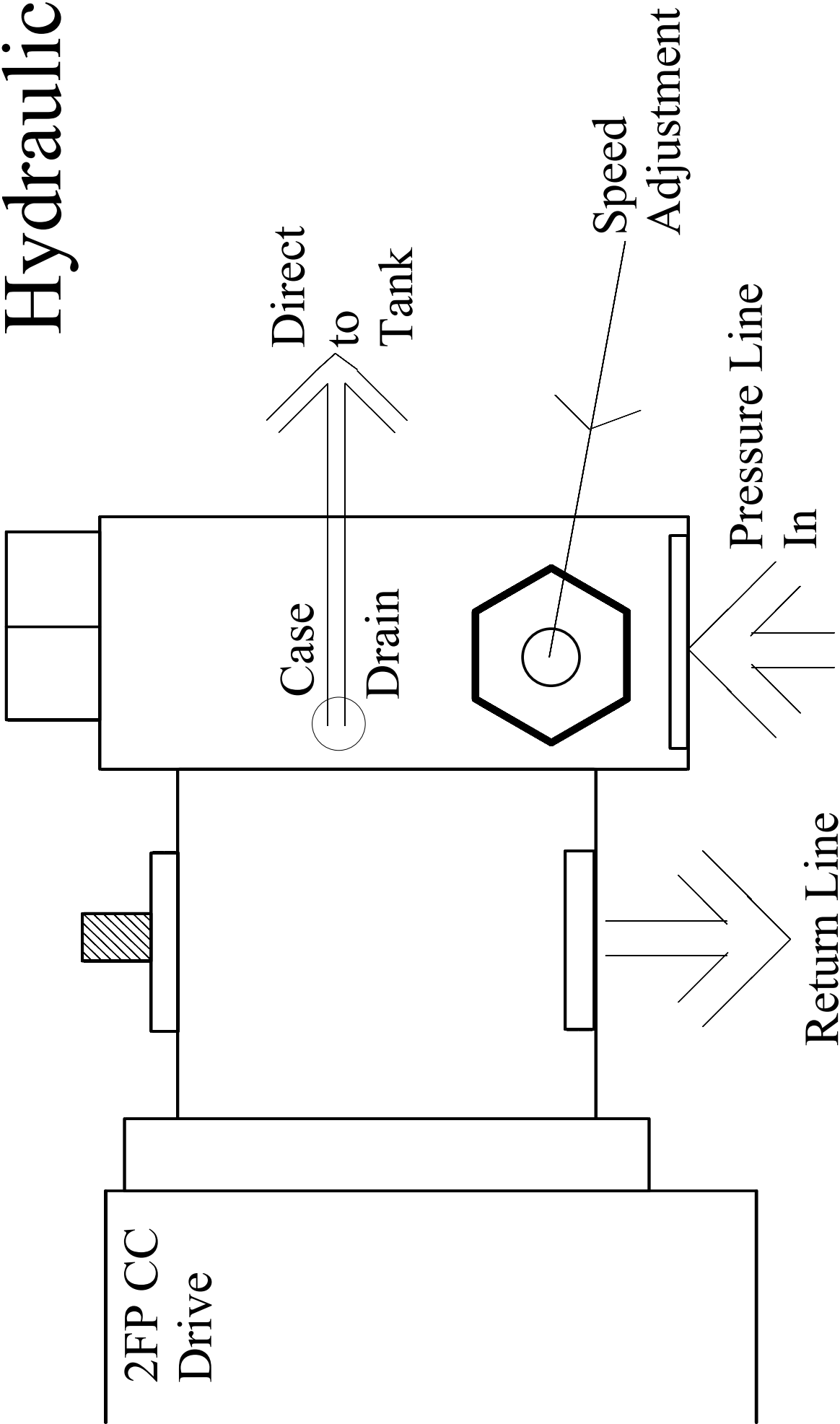
Item #	#	Part #	Description	Price
2		600933	Front Grid	
3b		600934	Front Shield B3/B14	
4a		600935	Fan	
5b		600936	Rotor (225-250 Amp)	
6		600937	Bearing	
7b		600938	225 DC Weld Impedance	
8a		600939	Black top cover	
9a		600940	7 posit. Step Switch (200-225 DC)	
10a		600941	Range selector (2 pos.) 200-225 DC	
11		600942	Step Switch knob	
12		600943	Female 400A welding terminal	
13		600944	Male 400A welding terminal	
14b		600945	225 DC panel	
15		600946	Welding rectifier bridge	
16		600947	DC brush-holder with brushes	
17		600958	Recep.Panel only	
21		600949	Slip ring (51*22*08)	
22		600950	Slip ring cover (diameter 51)	
23		600951	Varistor	
24a		600952	Single-ph rectif. Bridge(200-225 DC)	
26b		600953	Housing L & Stator 225 DC 60 Hz	
27		600954	Stud M8x 30	
28		600955	Shaft Stay Bolt and Nut	
29		600956	Kit from J 609 to B314	
39		600674	Rails (Set)	

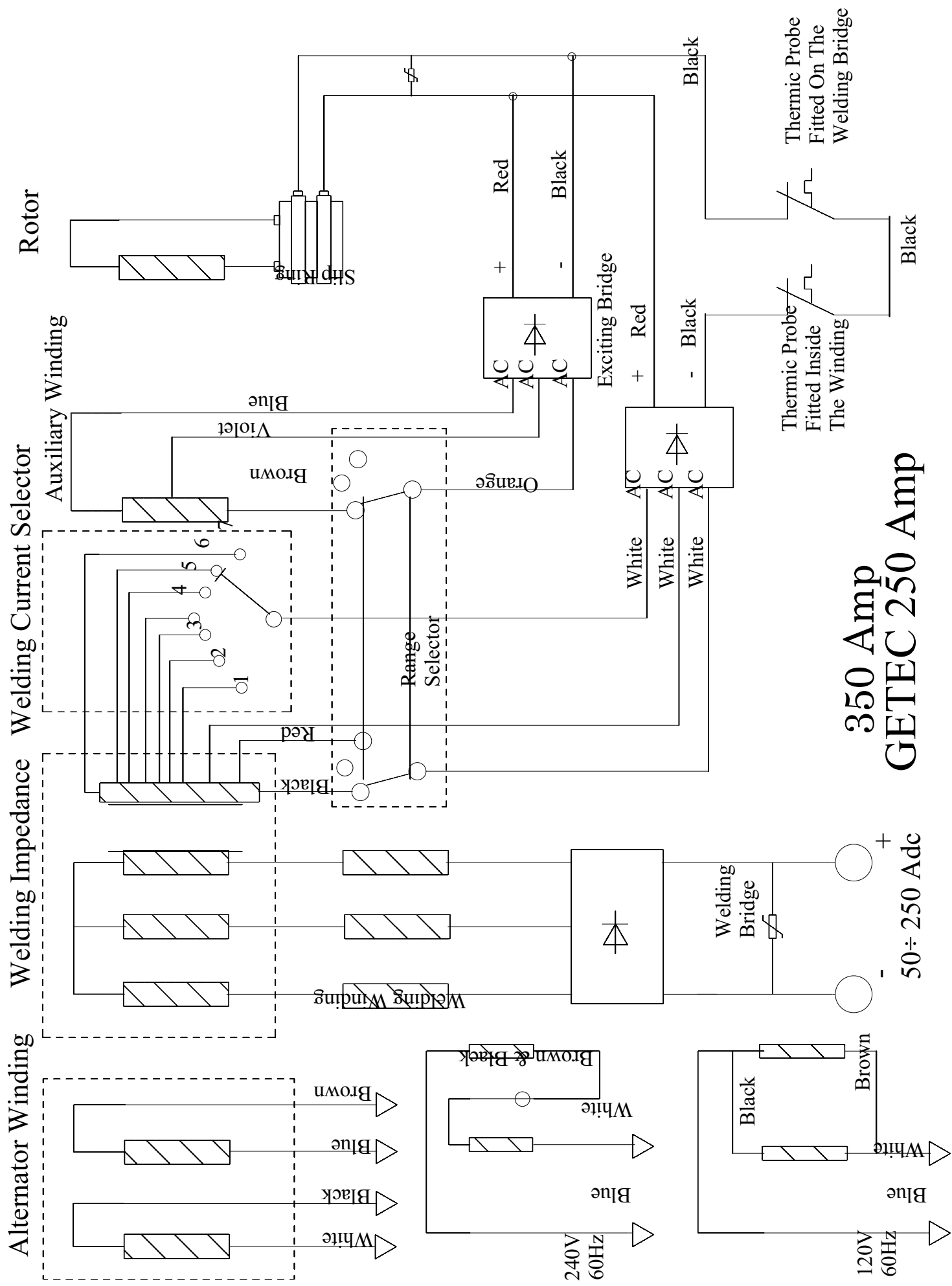
DC Welder Parts List

Page 2 of 2

Item #	Part #	Description	Price
40	600957	Air Intake	
41	600964	Recept.Panel Compl.	
41a	600965	Twistlock Recept	
41b	600966	Fine Control	
41c	600967	Ac Light	
41d	600968	D.Recept.	
41e	600969	Harness	
42	600970	Motor Mount	
43	600971	Coupling Set 99	
44	600114	Coupling Guard	
45	600922	Flow Reg CC	
46	600972	Hyd. Motor U 19	
47	600854	Weld Recept. w. Cover	

Hydraulic





2FP95 Hi-Flow Flow Regulator

The 2FP95 hi-flow regulator has been factory set to maintain the generator's speed at its proper limits. The regulator may need very slight adjustments after connecting to its new system. Type of oil, temperatures, minimum and maximum flow may affect this regulator in a different way than our test setup. The regulator will not be out of adjustment more than **1/8 of a turn**.

Clockwise will slow the generator down (reduce flow).

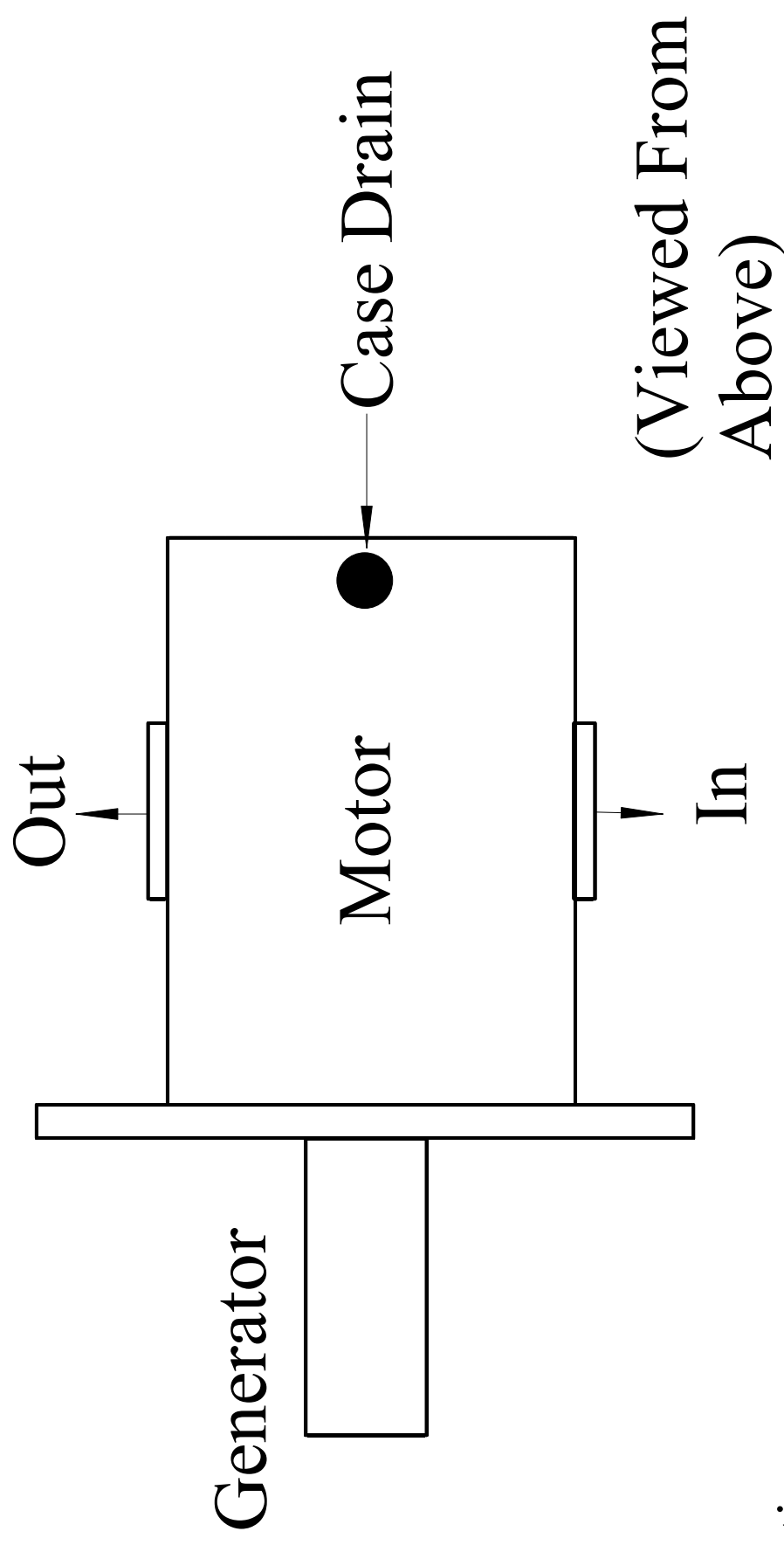
CounterClockwise will speed up the generator (increase flow, if present).

Caution : Overadjustment will cause damage to generator and void warranty.

HM 401 AND HW 301

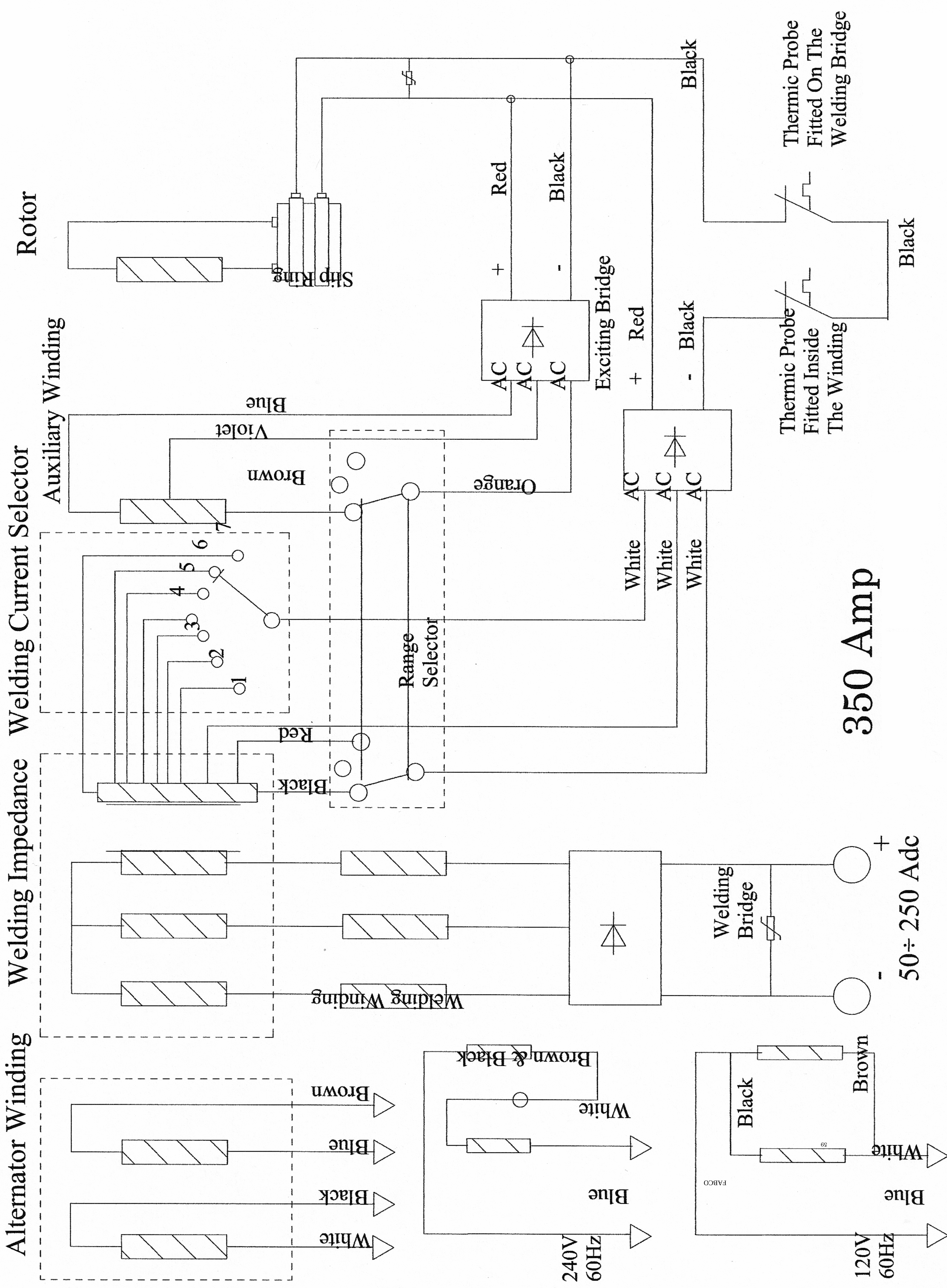
HM 621 AND HW 251

Hydraulic Drive



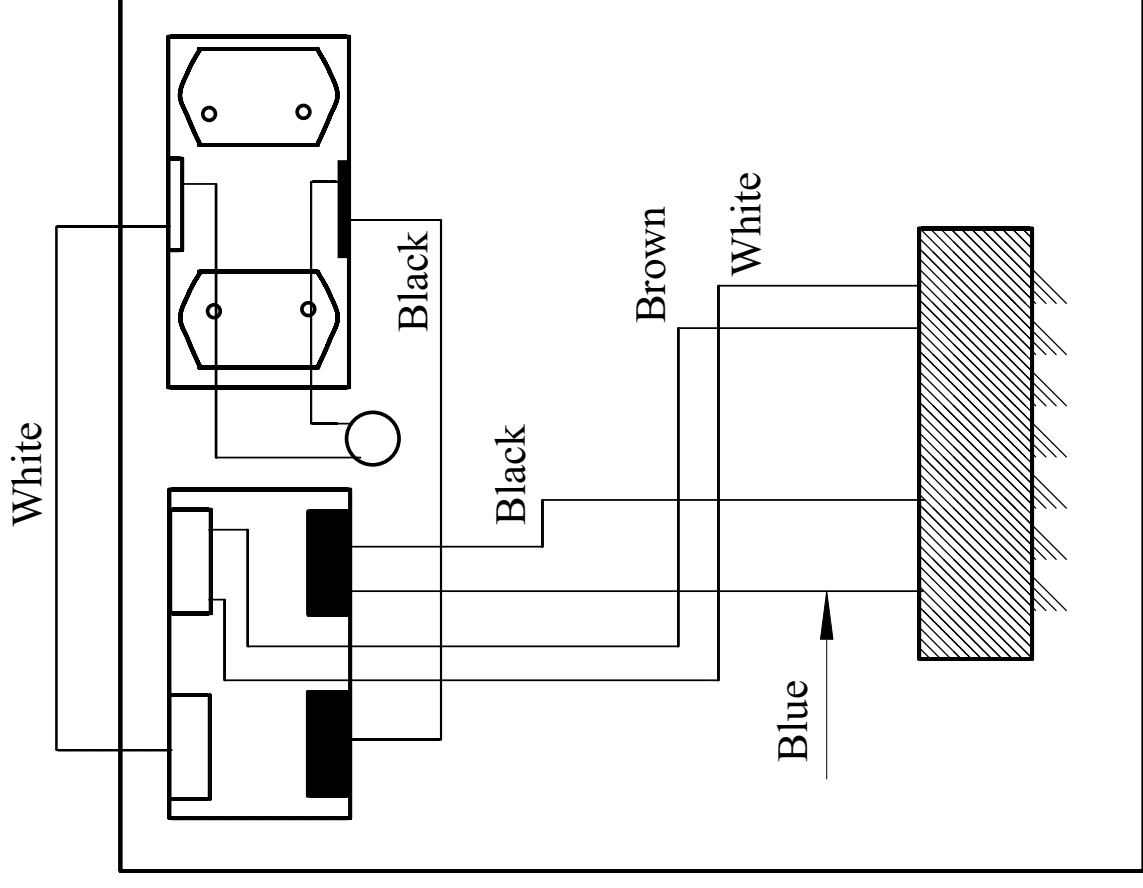
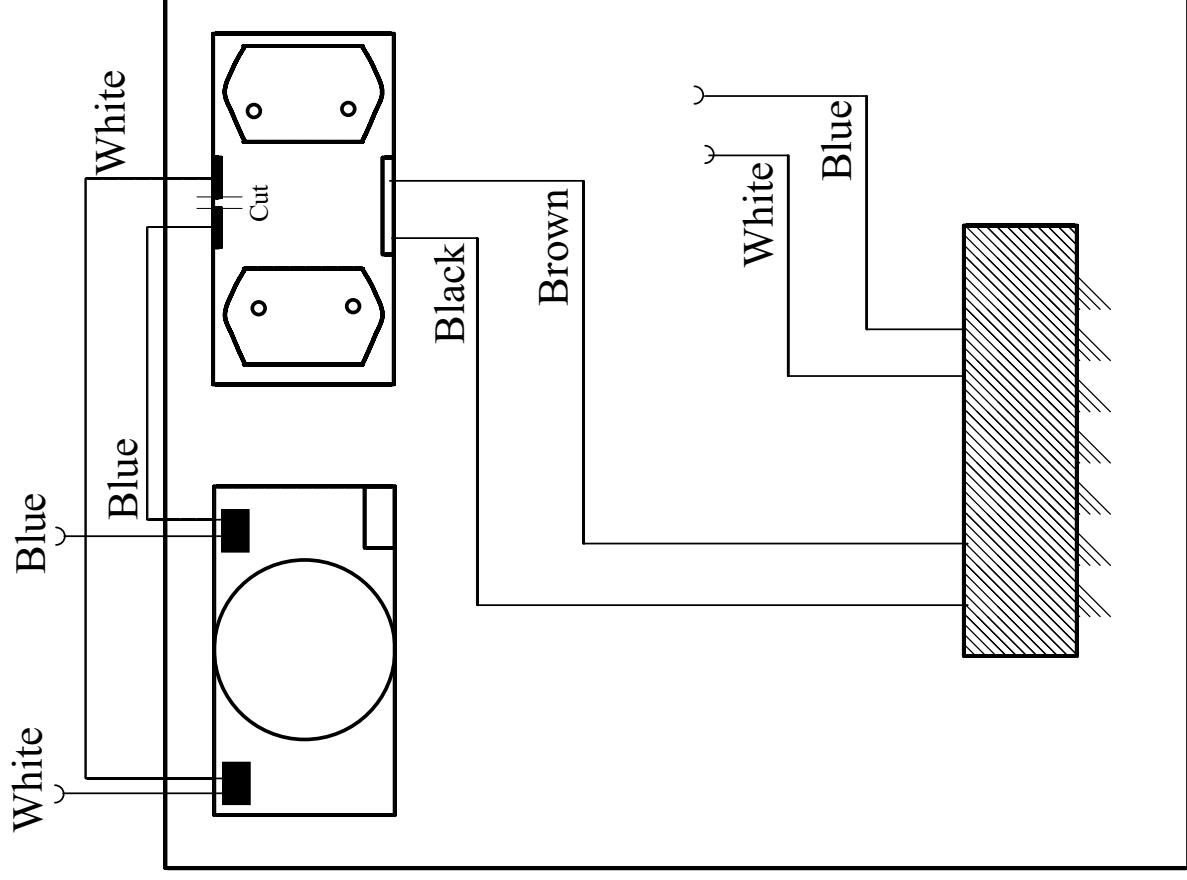
Caution

Do not allow generator to exceed 3800 RPM



350 Amp

Standard E Panels



WARRANTY SECTION

WARRANTY INFORMATION

FABCO warrants that this Rotary Screw Compressor unit conforms to applicable drawings and specifications approved in writing by FABCO. The unit assembly will be free from defects in material and workmanship for a period of two (2) years from the date of initial operation or thirty (30) months from the date of shipment, whichever period first expires. All other components and parts of FABCO manufacture, will be free from defects in material and workmanship for a period of one (1) year from the date of initial operation or eighteen (18) months from the date of shipment, whichever period first expires. If within such period BOSS receives from the Buyer written notice of and alleged defect in or nonconformance of the unit, all other components and parts of FABCO manufacture and if in the judgment of BOSS these items do not conform or are found to be defective in material or workmanship, BOSS will at its option either (a) furnish a Service Representative to correct defective workmanship, or (b) upon return of the item F.O.B. BOSS original shipping point, repair or replace the item or issue credit for the replacement item ordered by Buyer; (Defective material must be returned within thirty (30) days of return shipping instructions from BOSS. Failure to do so within specified time will result in forfeiture of claim), or (c) refund the full purchase price for the item without interest. Factory installed units will also include warranty on installation for a period of one (1) year. This warranty does not cover damage caused by accident, misuse or negligence. If the compressor unit is disassembled the warranty is void. FABCO's sole responsibility and Buyer's exclusive remedy here under is limited to such repair, replacement, or repayment of the purchase price. Parts not of FABCO manufacture are warranted only to the extent that they are warranted by the original manufacture. FABCO shall have no responsibility for any cost or expense incurred by Buyer from inability of FABCO to repair under said warranty when such inability is beyond the control of FABCO or caused solely by Buyer.

There are no other warranties, express, statutory or implied, including those of merchantability and of fitness of purpose; nor any affirmation of fact or representation which extends beyond the description of the face hereof.

This warranty shall be void and FABCO shall have no responsibility to repair, replace or repay the purchase price of defective or damaged parts or components resulting directly or indirectly from the use of repair or replacement parts not of FABCO manufacture or approved by FABCO or from Buyer's failure to store, install, maintain, and operate the compressor according to the recommendations contained in the Operating and Parts Manual and good engineering practice. The total responsibility of FABCO for claims, losses, liabilities or damages, whether in contract or tort, arising out of or related to its products shall not exceed the purchase price. In no event shall FABCO be liable for any special, indirect, incidental or consequential damages of any character including, but not limited to, loss of use of productive facilities or equipment, loss of profits, property damage, expenses incurred in reliance on the performance of FABCO, or lost production, whether suffered by Buyer or any third party.

SUMMARY OF MAIN WARRANTY PROVISIONS

As claims, policies and procedure are governed by the terms of the FABCO warranty is necessary to outline some of the more important provisions.

The FABCO warranty applies only to new and unused products which, after shipment from the factory have not been altered, changed, repaired or mistreated in any manner what so ever. Normal maintenance items such as lubricants and filters are not warrantable items.

Parts not of BOSS manufacture are warranted only to the extent they are warranted by the original manufacturer.

Damage resulting from abuse, neglect, misapplication or overloading of a machine, accessory or part is not covered under warranty.

Deterioration or wear occasioned by chemical and/or abrasive action or excessive heat shall not constitute defects.

Parts replacement and/or correction of defective workmanship will normally be handled by BOSS or their authorized distributor.

Failure to file a detailed warranty claim/service report for each occurrence of material defect of defective workmanship will cause warranty claim to be rejected.

Defective material must be returned within 30 days of receipt of shipping instructions. Failure to do so within specified time will result in forfeiture of claim.

The distributor is responsible for the initial investigation and write up of the warranty claim.

Distributor shall be allowed no more than 30 days from date of repair to file a warranty claim/service report.

Warranty for failure of BOSS replacement parts covers the net cost of the party only not labor and mileage.

The FABCO warranty does not cover diagnostic calls and travel. That is time spent traveling to the machine to analyze the problem and returning with the proper tools and parts to correct the problem.

FABCO will deduct from allowable credits for excess freight caused by sender failing to follow return shipping instructions.

Distributors or end-users automatically deducting the value of a warranty claim from outstanding balances due and payable to FABCO prior to receiving written notification of FABCO approval of the warranty claim may be subject to forfeiture of the entire claim.

WARRANTY/RETURN GOODS INSTRUCTIONS

The warranty/return procedure outlined below is provided to give the claimant the information necessary to file a warranty/return claim, and enable FABCO the ability to best serve its' customers.

Please see the following instructions to initiate a return:

WARRANTY CLAIMS – PREPARATION OF PART RETURN

Parts returned to the factory must be properly packaged to prevent damage during shipment. Damage to a part as a result of improper handling or packing could be cause for denial. When addressing the package for shipment, the following information must be on the outside of, or tagged clearly, to the package.

1. Return Goods Authorization #.
2. Distributor or end-users return address.
3. Correct factory address.
4. Number of packages pertaining to each claim.

NOTE: Our warranty requires that all defective parts be returned to BOSS INDUSTRIES freight prepaid. Items sent without RGA number will not be accepted. Unauthorized Returns Will Immediately Be Refused At Dock.

RETURN OR WARRANTY CLAIMS – FILING PROCEDURES

1. Initiate through a purchase order for warranty part or request for credit.
2. RGA will accompany replacement part.
3. FABCO will confirm disposition of failed part within 30 days of receipt and or request additional information.
4. Claim denial will result in issuance of a letter of denial.
5. FABCO will consider each claim on its' own merit and reserves the right to accept or reject claim request. In case of air-ends, these will be returned to the manufacturer for their analysis/input.
6. Send Warranty Claim to:

GENERAL

An approved claim depends on the following provision:

1. An RGA # must be issued by FABCO (See filing procedures.)
2. Failed part must be returned within 30 days of original invoice date, freight prepaid, with RGA #.
3. Part is determined to be defective.
4. Workmanship is determined to be defective.
5. Machine is within warranty period.
6. Machine has been operated within design conditions.

DAMAGE IN TRANSIT

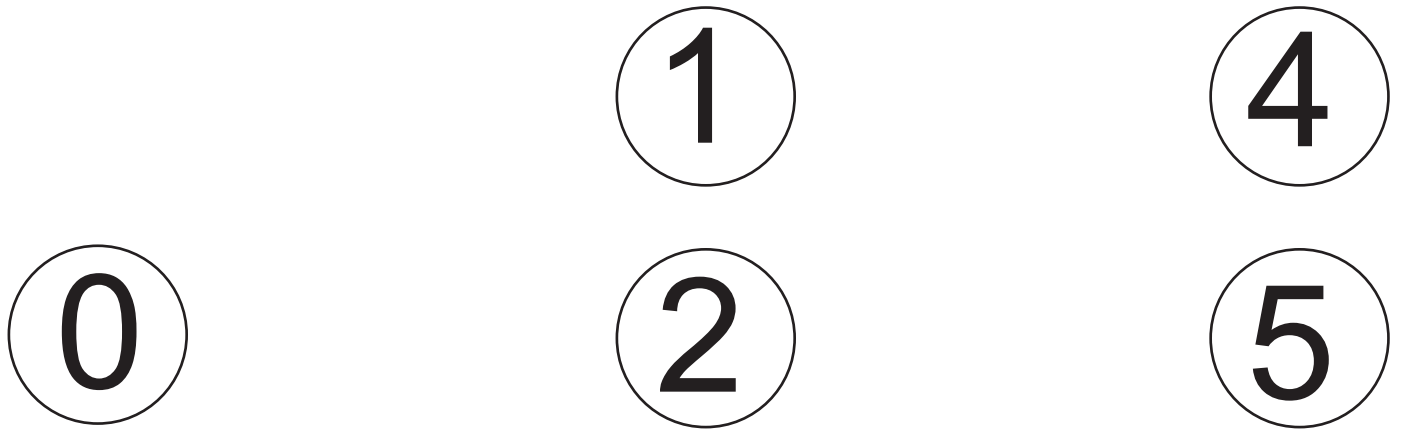
Do not return damaged merchandise to FABCO, please follow claim procedure.

1. Loss in transit:
The merchandise in our kit or provided in our factory installations has been thoroughly inspected or carefully installed and tested before leaving our plant. However regardless of the care taken at the factory there is a possibility that damage may occur in shipment. For this reason, it is recommended that the unit be carefully inspected for evidence of possible damage or malfunction during the first few hours of operation. Responsibility for the safe delivery of the kit or factory installed unit was assumed by the carrier at the time of shipment. Therefore, claims for loss or damage to the contents of the kit or factory installed unit should be made upon the carrier
2. Concealed loss or damage:
Concealed loss or damage means loss or damage, which does not become apparent until the kit is unpacked or the factory-installed unit is run by the end-user. The contents of the kit or factory installed unit may be damaged due to rough handling while in route to its destination, even though the kit or factory installed unit shows no external damage. When the damage is discovered upon unpacking, make a written request for inspection by the carrier agent within fifteen days of delivery date. Then file a claim with the carrier since such damage is the carrier's responsibility.

By following these instructions carefully we guarantee our full support of your claims, to protect you against loss from concealed damage.

3. Visible Loss or Damage
Any external evidence of loss or damage must be noted on the Freight Bill or Express Receipt, and signed by the carrier's agent. Failure to adequately describe such external evidence of loss, or damage may result in the carrier refusing to honor a damage claim. The carrier will supply the form required to file such a claim.

Terminals



Heavy Cable connections